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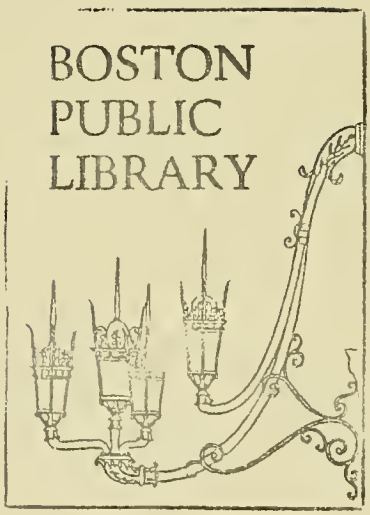
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TREND OF NEW ENGLAND'S STATE AND LOCAL FINANCES TO 1970

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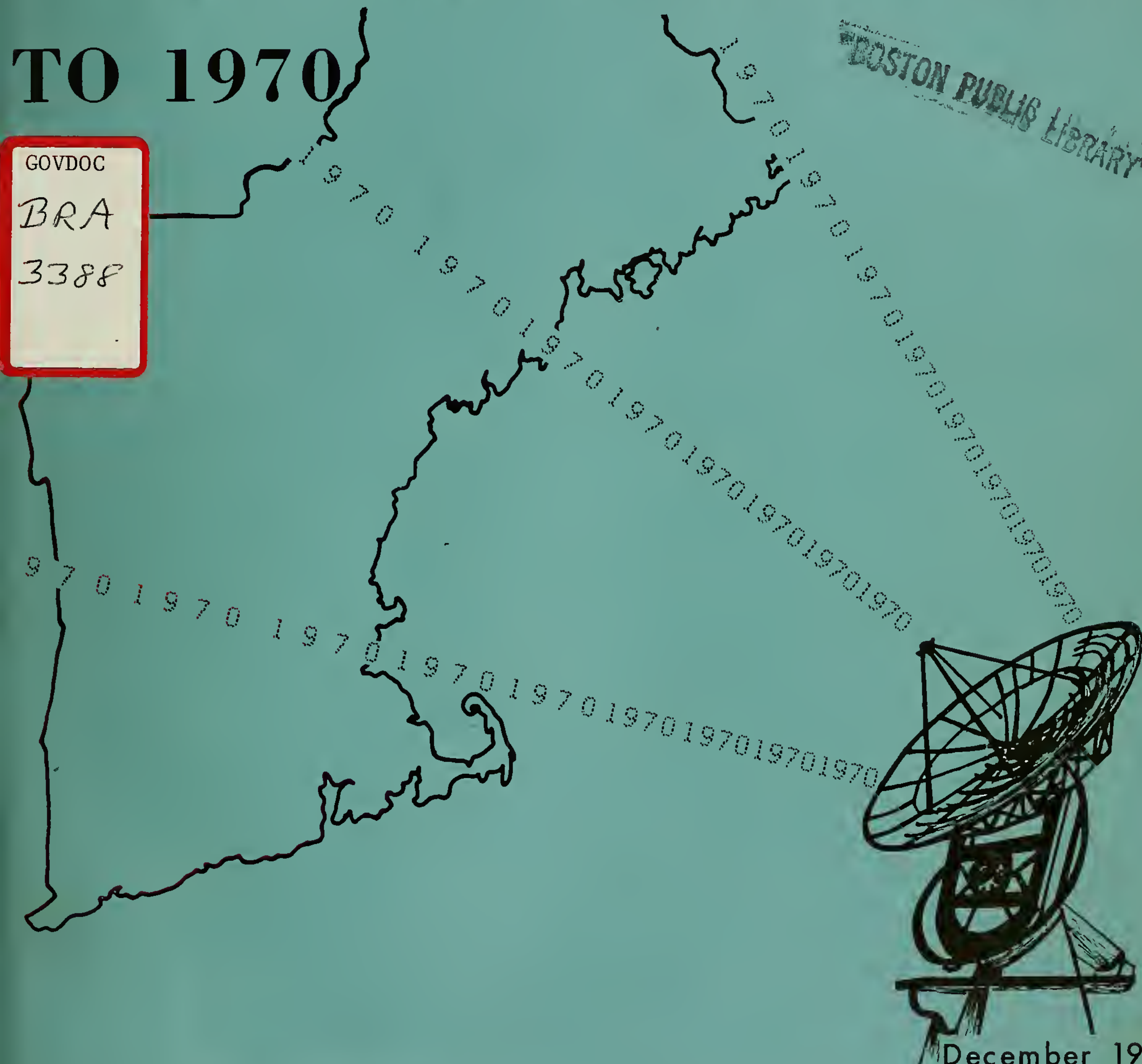

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Research Report
Federal Reserve Bank
of Boston
1970 Projection No. 15

Edwin F. Estle
Industrial Statistician
Research and Statistics
Department

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I. SUMMARY OF FINDINGS

Growth in New England's population and income during the 1960's will be the main forces that will generate demands for an increasing amount of public facilities and services to be provided by state and local levels of government to 1970. The trend toward increasing urbanization and the attitude of the public toward governmental financial activities are also factors in determining the amount of state and local government expenditures and revenues in the future. Public schools, universities, hospitals and mental institutions, highways and streets, welfare assistance, sanitation facilities, police and fire protection--these are some of the facilities and services that will be desired and needed in increasing amounts during the 1960's.

A. Expenditure Projections

How large will the expenditures for these facilities and services become by 1970? A projection of state and local general expenditures[1/] to 1970 for each of the New England states was made on the basis of the expected needs for the above types of government functions. Using the actual amounts of expenditure for the various functions in 1957, the trend of expenditures was estimated to fiscal 1970, taking into account such factors as expected population growth, estimated changes in income levels, changes in attitude toward government services, and the effects of increasing urbanization. In 1957 dollars, the state and local governments in each of the New England states will spend more in 1970 than in 1957, but the percentage increases in expenditures from 1957 to 1970 will vary widely among the individual

1/ General expenditure as distinguished from total expenditure does not include utility and insurance trust revenue.

states. Expenditures are expected to expand about 13 percent in Connecticut, 27 percent in New Hampshire, 40 percent in Massachusetts, 50 percent in Maine, 53 percent in Rhode Island, and 62 percent in Vermont.

State and local government expenditures are not expected to rise in a straight-line trend in any of the New England states during the 1960's. In Connecticut, for example, expenditures in 1965 will be lower than in 1957 by about $33 million. A large decrease from the 1957 level in capital outlay expenditures for highways will more than offset increases in education and welfare expenditures. From 1965 to 1970, however, expenditures will increase because of a rise of about 80 percent in education expenditures and a 15 percent increase in public welfare expenditures, while highway expenditures will decrease 34 percent from their 1965 level. In Maine and Rhode Island most of the increase will take place during the 1957-1965 period. In Massachusetts, New Hampshire and Vermont, on the other hand, the increase in expenditures to 1965 will be about one-half the increase to 1970.

In all of the New England states with the exception of Connecticut, expenditures from 1957 to 1970 will increase faster than the growth in population. Vermont will experience the greatest increase in per capita expenditures, from $272 in 1957 to $404 in 1970. This large increase in Vermont's per capita expenditure reflects its relatively low rate of population growth, 9 percent from 1957 to 1970, in comparison to a 62 percent growth in government expenditures over the 1957-1970 period. Vermont's growth in expenditures will stem from sizable increases needed to provide for public education and added highway facilities. The amount of state and local government expendi-

ture for each Connecticut resident on the other hand, will be about $25 less in 1970 than in 1957, reflecting a greater percentage increase in population, 27 percent, than in expenditures, 13 percent.

In order to see the reasons for the increases in total general expenditures, it is necessary to look at the amounts to be spent for the various government functions. Total state and local expenditures for all types of education will increase from 1957 to 1970. However, the amount spent for public elementary and secondary schools in 1970 will be less than that spent in 1957 in Connecticut. Current operation expenditures will increase by $28 million, but this increase will be more than offset by a decline in capital outlay expenditures. Most of Connecticut's expansion in public and elementary school enrollment will occur in the early 1960's; therefore, capital outlays will be greater in the earlier part of the decade. Since expenditures will be lower in 1970 and population will have increased 22 percent, per capita expenditures for public and elementary schools are expected to decline in Connecticut from about $81 in 1957 to $64 in 1970. In Massachusetts, New Hampshire, and Vermont per capita public school expenditures will also decline from their 1957 level by 1970. Total expenditures will not increase substantially in these states, while the population growth will be in the range of 9 to 16 percent. Here again, the effect of increases in current operation expenditures will be offset by reduced capital outlay needs by 1970. In Rhode Island, on the other hand, per person public school expenditures will increase by about $4 over the 1957-1970 period. In this state both capital outlays and current expenditures will be above their 1957 level. The increase in public school enrollment of 34 percent from 1955-56 to 1970 will be the highest of any state in the New England region, and a large part of this increase is expected in the latter part of the 1960's.

In making the public school expenditure projections, the amount of private school enrollment in New England, the number of new classrooms to meet both expansion needs and replacement of obsolescent facilities, and the number of teachers required for the expected increase in public school enrollment were considered.[2/]

In contrast to the divergences shown by the New England states in public school expenditures, the per capita expenditure for higher education in each of the New England states is expected to more than double during the 1957-1970 period. This increase in higher education expenditures reflects the big growth expected in the college age population in the 1960's, the trend toward a larger proportion of the college age population attending college, and the tendency for college students to acquire more years of advanced schooling.

State and local governments in New England are expected to build many new roads and to replace and modernize many miles of existing highway and streets during the 1960's. The timing of the highway building program, however, is not the same in all of the states. In Connecticut, Maine and New Hampshire the expenditures for highways by state and local governments in 1970 will be less than the amount spent in 1957. If present plans are adhered to and new demands do not assert themselves, the highway building program in these three states will have progressed further than in the other New England states by 1970 because of large expenditures on highways in recent years and continued large expenditures expected in the early 1960's. Highway expenditures will be larger in 1970 than in 1957 in the other New England states because their capital outlays will still be large and because their highway maintenance expenditure will have increased due to the building of additional roads and the improvement of existing ones.

2/ See Educational Needs in New England, Federal Reserve Bank of Boston, Research Report, 1970 Projection No. 3

Public welfare expenditures will be larger in all of the New England states in 1970 than in 1957. There will be variations among the states, however, in the amounts spent on the different types of public welfare. Vermont, for example, is not expected to increase its expenditures for old-age assistance because its population 65 and over will remain about stationary during the 1957-1970 period. Connecticut and Massachusetts, on the other hand, are expected to increase expenditures for old-age assistance by a large amount because their 65 and over population will show large increases, by 35 percent in Connecticut and 24 percent in Massachusetts, over the 1957-1970 period. Population growth in the 65 and over age group and in all the other age groups will also mean larger expenditures for aid to the blind and the disabled in the New England states. Likewise, there will be increases in the amount spent for aid to dependent children because of the large growth expected in the population under 18 years of age.

The following table compares the amount of per capita expenditure for public welfare in 1957 and 1970 in the various states of the region.

Table 1

PER CAPITA WELFARE EXPENDITURE, 1957 AND 1970
(1957 dollars)

	1957	1970	Absolute Change	Percent Change
NEW ENGLAND	$33.48	$36.07	$2.59	+ 7.7%
Massachusetts	47.77	51.89	4.12	+ 8.6
Rhode Island	24.81	26.20	1.39	+ 5.6
Connecticut	18.40	19.74	1.34	+ 7.3
New Hampshire	16.28	17.28	1.00	+ 6.1
Maine	19.64	20.69	1.05	+ 5.3
Vermont	21.54	21.12	- 0.42	- 2.0

Health and hospital expenditures are expected to increase because of the growth in population and an increase in the amount spent per capita. In the 1947-1957 period hospital expenditures per capita more than doubled in all of the New England states with the exception of Maine which had about a 90 percent increase. It is assumed in these projections that the per capita amount of health and hospital expenditures will increase in the 1958-1970 period by 10 percent of the 1947-1957 increase.

Factors that will check the rise in per capita spending for public health and hospitals include the following. First, the large amounts of expenditures required for other governmental functions will probably prevent health and hospital expenditures from increasing as much as if the other expenditures were not required. Secondly, the large increases in expenditures that took place in the 1947-1957 period indicate that quite substantial gains have already been made in providing better public health and hospital services to New England residents. In addition, the rise expected in personal incomes in New England is expected to allow residents in the region to provide for more private health and hospital care. It is possible that a higher proportion of the population will be covered by hospital and medical insurance in 1970 and, therefore, the greatest demands may be for private facilities.

On the other side of the ledger, there will be the following factors making for demands for increased public health and hospital outlays. First, there will be some increase in expenditure above the amount called for by the population increase because of the increasing urbanization of the population, better recognition and treatment methods of health problems, etc. Additional hospitals and clinics will be needed

for the new urban centers that are expected to develop over the 1960's. Secondly, the greater percentage increase in the population over 65 than the percentage increase in total population indicates that more mental institutions and hospital facilities will be required for the care of the aged. Finally, higher incomes may create a demand for better public health standards which would have the effect of increasing public health expenditures somewhat.

B. Revenue Projections

With the tax rates and fees in effect in 1958, state and local general revenue receipts 3/ for each of the New England states were projected to 1970 in terms of constant 1957 dollars. These estimates were made by projecting revenue receipts in 1957 to 1970 on the basis of expected population and income growth. A comparison of the projected revenues from existing tax rates with the projected expenditure needs indicates the amount of surplus or deficit in revenues that can be expected in 1970 if tax rates are not increased and no new taxes are introduced. The following table shows the deficits or surplus of the New England state governments in 1957 and 1970.

Table 2

DEFICIT OF GENERAL REVENUE TO GENERAL EXPENDITURE OF STATE GOVERNMENTS, 1957 AND 1970
(Thousands of 1957 dollars)

	1957	1970	Percent Change 1957-1970
NEW ENGLAND	$415,513	$769,213	+ 85.1%
Connecticut	138,878	86,164	- 38.0
Massachusetts	217,757	492,909	+126.4
Rhode Island	11,791	51,916	+340.3
Maine	15,485	63,216	+308.2
New Hampshire	22,330	34,649	+ 55.2
Vermont	9,272	40,359	+335.3

3/ General revenue as distinguished from total revenue does not include utility and insurance trust revenue

The states will need to introduce various new taxes and/or increase the rates of existing taxes to reduce the deficits projected above. For example, tax rates on general sales, individual and corporate income, motor fuels, tobacco products, and various license fees may be increased in the states that now have these taxes. If the states were to cover their highway expenditures in 1970 with the revenues from motor fuel taxes and motor vehicle license fees, all of the states with the exception of New Hampshire would have to raise the fee for vehicle licenses and/or raise the tax on motor fuels. If they were to raise vehicle license fees by $2, it would be necessary to increase gasoline taxes 2 cents a gallon in both Rhode Island and Vermont, 3.5 cents a gallon in both Connecticut and Maine, and 6 cents a gallon in Massachusetts.

If states were to balance revenues and expenditures in 1970 by relying solely on rate increases, rather than adding new taxes, it would require an average rate rise of more than 40 percent in Maine and Vermont, more than 30 percent in Massachusetts and Rhode Island, more than 25 percent in Vermont, and more than 15 percent in Connecticut. It can be expected, therefore, that new taxes will be enacted in addition to raising tax rates. It is to be hoped that new taxes will be imposed, and perhaps some tax rates raised, by means of comprehensive study and review of the tax structures of the individual states rather than in a hit or miss patchwork fashion.

Among the frequently used taxes, Connecticut, Maine and Rhode Island do not yet impose individual income taxes, and Massachusetts, New Hampshire, and Vermont still have no general sales tax. In addition, Maine and New Hampshire do not impose a corporation net income tax at the present time.

Local governments will also need to find new sources of revenue. Property taxes, the main source of local revenue today, will bring in increased revenue as the economy expands and property increases in value, but it is unlikely that property taxes alone could provide enough additional revenue to cover the increase in expenditures. It is more likely that there will be a larger distribution of revenue from larger governments to the local governments. In addition, charges for local government services could be increased, or some new tax, for example the sales tax, could be introduced to prevent a deficit in revenues.

These projections do not attempt to guess what the tax structure of any state will be in 1970, but it is obvious that a major overhaul of existing systems will be needed long before 1970 to meet the demands of the 1960's.

C. Assumptions Underlying the Projections

The estimates of general expenditures and revenues made above are based upon a number of assumptions, in addition to those common to all the projections in this series.

(1) Projections of the New England population to 1970[4/] form a basis for many of the expenditure and revenue estimates. Likewise, personal income estimates for each of the New England states[5/] were used to determine many of the components of state and local expenditures and revenues

4/ Frank L. Sweetser and Everett J. Burtt, Population and Labor Force Projections for Six New England States to 1960 and 1970, Federal Reserve Bank of Boston, Research Report, 1970 Projection No. 5.

5/ Federal Reserve Bank of Boston, Projected Income In New England to 1970, Research Report, 1970 Projection No. 12.

(2) It is assumed that state and local governments will not anticipate demands for public services by making expenditures in excess of the need for them.

(3) There will be no major shifts in the division of functions between Federal, state, and local governments.

(4) It is assumed that grants-in-aid from the Federal Government to the states will be based upon present formulas.

Additional assumptions were made concerning particular aspects of various expenditure functions and revenue sources, and these are treated in connection with these functions and sources in the discussion that follows.

In the sections that follow in this study, past trends of state finances are examined in order to discover the underlying causes that gave rise to the trend, past trends are projected into the future in order to find out what state and local finances would be if these past trends continued to 1970, and the forces that are expected to exist in the period to 1970 are discussed in order to explain the reasoning behind the projected change in past trends.

II. PAST TRENDS OF STATE FINANCES

It would be desirable to examine the past trend of state and local finances, but, unfortunately, data for all local governments in each of the New England states exist only for the year 1957 in the post-war period. However data for state government finances do exist for the 1947-1958 period, and the trend over this period can be examined with a view toward determining the reasons for the particular shape of the trend. If the forces which gave rise to the shape of the trend can be determined, an estimate of the strength of these forces in the future can be made.

A decidedly straight-line trend in the growth of state general expenditures from 1947 to 1958 is shown in the data for each New England state with the exception of Connecticut where the growth trend changes in 1956 from a gradually rising straight line to a sharply rising one. In dollars of constant 1957 purchasing power, Connecticut's general expenditures increased 203 percent, with 98 percent of the growth accounted for in the years 1956-1958. But even more strikingly, highway expenditures increased 677 percent from 1947 to 1958, with 289 percent of the rise accounted for in the three years, 1956-1958.

In the other New England states, expenditures increased by 50 percent or more, with New Hampshire and Vermont showing particularly large percentage increases of 154 and 122 percent, respectively.

The trend of general revenue receipts in the 1947-1958 period was linear in all of the New England states. Massachusetts and Rhode Island were the only states that showed a greater percentage increase in revenue than in expenditures over the 1947-1958 period. New Hampshire had the smallest percentage increase in revenue, 48 percent, over the period, while Vermont had the greatest increase, 99 percent. The latter

state was the only one in New England with a surplus in revenues in 1957, but this changed to a deficit in 1958.

Thus it can be seen that the New England states varied in their increases in expenditures and revenue over the years 1947 to 1958, but they all showed some measure of growth, with almost all of the growth being of a straight-line nature.

What factors gave rise to this linear growth? First of all, the trend of population growth in the 1947-1957 period was a gradually rising straight line with the exception of Massachusetts and Connecticut. Massachusetts' population declined during the 1949-1951 period and rose again from 1952 through 1957. Connecticut's population increased sharply from 1952 through 1957 (which may account for part of the sharp rise in general expenditures in 1956 that was noted above). Population growth requires increased expenditures for almost every governmental function; more schools, more hospitals, more welfare aid, etc., are necessary as the population increases.

Secondly, the personal incomes of New England residents have grown in the 1947-1957 period in a linear manner. Rising incomes create desires for better standards of public services and for new public services. Moreover, rising personal incomes create more government revenue from existing tax sources with existing tax rates.

Third, there was a postponement during World War II of replacement and expansion of public facilities and services, which created a backlog of expenditures to be faced in the postwar period.[6/] As new programs were introduced after the war, expenditures rose, but they did not rise in a discontinuous fashion because new expenditure programs are spread over several years, often with smaller expenditures being made at the beginning of the program and larger expenditures being made as the

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6/ Cf., Maloon, James H., Projection of State-Local Revenues and Expenditures in the Next Decade, an address before the National Association of Tax Administrators Conference, June 4, 1957, Poland Spring, Maine, page 6.

program is carried out.[7] As the economy adjusted from the war to postwar world, additional programs were introduced to meet the needs of an expanding population, to meet the demands created by increasing urbanization, and to meet demands for better standards of public service.

Fourth, a large amount of public expenditures cannot be easily reduced. Once projects are started, society becomes accustomed to receiving their benefits and resists their reduction, thus giving an upward thrust to public expenditures.[8]

A fifth reason for the trend of state and local finances to be linear is that state and local governments are not prone to introduce expenditure programs faster than the demand for them arises, even though their long-range planning indicates that the need for them will arise in the future, because the public will resist such attempts due to lack of knowledge of long-run needs, apathy toward meeting future needs, and the desire to resist large government spending programs. This acts as a check on expenditures which tends to prevent a sudden rise in expenditures to a higher level.

In the sixth place, the Korean War intervened in the 1947-1958 period to postpone some of the planned expenditure, and to give rise to additional public programs as the economy continued to expand. Moreover, as the 1950's began, the elementary school age population began to expand as the result of the increase in births during World War II, giving rise to the

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7/ Herbert Stein in the introduction to Trends in Public Expenditures in the Next Decade by Otto Echstein for the Committee for Economic Development, April 1959.

8/ Poole, Kenyon E., Public Finance and Economic Welfare, Rinehart & Company, Inc., New York, 1956, page 6.

need for additional elementary school facilities.

Finally, revenue was needed to meet the increase in expenditures, and revenue from existing taxes did grow as the incomes of the populace increased. In addition, new taxes were introduced as the decade went by, for example, Connecticut, Maine, and Rhode Island have introduced the general sales tax since 1947. There was, however, a check on the increase in revenue from the resistance of the public to new taxes, a resistance that only grudgingly gave ground as the need for new public programs became overwhelmingly evident. This resistance was intensified, on the other hand, by the continuance of high levels of taxation at the Federal level, which made the state legislatures hesitant to provide the financial means to meet the growth in expenditures.

There were, therefore, several forces in the 1947-1958 period that caused both expenditure and revenue to increase and to increase in a continuous manner.

What would be the amount of general expenditures and revenues of state and local governments if the past straight-line growth trend were to continue to 1970? Using 1957 as a basis of comparison, there would be a considerable difference in the amount of growth, as table 3 on the following page shows by making the projection from past trends as compared with the estimate made on the basis of needs as outlined in Part I above.

Which basis for the projection of state and local government finances to 1970, past trends or needs, should be accepted as the most likely basis for arriving at a reasonable estimate? That is to say, will the forces be modified, giving rise to a non-linear trend? There are signs that point to a continuation of many of these forces, but there are also indications that there will be an intensification of many of them

and a diminution in others. The past trend, therefore, does indicate the general direction in which state and local finances can be expected to move, but it does not adequately indicate the level of these finances. The nature of the forces that will give rise to state and local expenditures and revenues from 1957 to 1970 will now be examined.

Table 3

GROWTH IN EXPENDITURES ON BASIS OF FUTURE NEEDS AND REVENUES ON BASIS OF EXPECTED POPULATION AND INCOME AS COMPARED WITH PROJECTION FROM PAST TRENDS, 1957-1970

	Expenditures		Revenues	
	Percent Growth On Basis of Past Trend	Percent Growth On Basis of Expected Needs	Percent Growth On Basis of Past Trend	Percent Growth On Basis of Population and Income
Connecticut	28.8%	12.7%	59.3%	43.9%
Massachusetts	40.5	39.8	48.9	37.8
Rhode Island	39.0	52.7	20.8	50.9
Maine	12.9	50.6	49.9	42.9
New Hampshire	55.5	26.9	54.4	43.8
Vermont	58.7	61.8	68.5	81.3

III. REASONS FOR EXPENDITURES, 1957-1970

A. Population Growth

Population projections indicate that the total population of each of the New England states will grow over the 1957-1970 period, and that New England as a whole will have a population increase of about 16 percent, or an average annual rate of growth of 1.1 percent. In the 1947-1957 period, on the other hand, New England as a whole had a 9 percent population increase, or an average annual rate of growth of 0.88 percent. The population growth from 1957 to 1970 can be expected, therefore, to create pressures for greater government expenditures.

Among the New England states, Connecticut is expected to have the largest population increase, 22 percent, Massachusetts is expected to have the same percentage increase as for all of New England, and the other New England states will show a growth ranging from 8 to 14 percent. There will be, however, widely different patterns of growth in the various age classes of the population in the New England states.

1. Public School Education

For example, in the school age population, 5-17 years of age, Connecticut is expected to show an increase of 28 percent and Massachusetts is expected to have an increase of 27 percent from 1957 to 1970. In the other New England states, Vermont leads in the growth of the school age population with a 22 percent rise, New Hampshire and Rhode Island follow with an 18 percent increase, and Maine shows a slightly smaller rise of 17 percent.

However, in order to determine the amount of expenditure for elementary and secondary education that local governments will make in 1970, it is necessary to look at the growth in private school enrollments. It was assumed that private school enrollment will expand faster than

public school enrollment in the 1960's, and that about the same proportion of the school age groups will attend public schools as in the 1945-1946 school year.[9/] If private school enrollments are less than assumed in these projections, public school expenditures will have to grow even more than projected here.

On the basis of the above assumptions, public school enrollments are expected to increase in the manner shown in the accompanying table over the 1955-1956 to 1970 period.

Table 4

PUBLIC SCHOOL ENROLLMENT, 1955-56 AND 1970
(in thousands)

	1955-56	1970	Percent Increase 1955-56 to 1970
NEW ENGLAND	1,610	2,170	30.9%
Connecticut	389	513	31.9
Massachusetts	766	1,015	32.5
Rhode Island	117	157	34.2
Maine	177	219	23.7
New Hampshire	90	114	26.7
Vermont	71	91	28.2

Rhode Island is expected to show the largest percentage increase in public school expenditures, 18 percent, from 1957 to 1970, followed by Maine with a 9 percent increase. Connecticut will have a decline of 3 percent in its public school expenditures. In dollar amounts Massachusetts will have the largest increase, about $18 million, followed by Rhode Island with a $8 million increase in expenditures. Connecticut's expenditure in

9/ See Educational Needs in New England, Federal Reserve Bank of Boston, Research Report, 1970 Projection No. 3 for a fuller discussion of the educational projections for the region.

1970 will be about $4 million less than in 1957 because of a reduction in capital outlays that will more than offset the increase in current operation expenditures.

Rhode Island's rather large increase in expenditures is due to its having the third highest per pupil cost for current operation of schools and the second highest per pupil cost for school construction, in addition to its having the largest percentage increase in public school enrollment of the New England states.

The total impact of increased school enrollment is not reflected in the 1970 expenditure figures because much of the capital outlay for schools to provide for the increased enrollment will take place before 1970. The average annual cost of building classrooms in New England over the 1958-1970 period is expected to be about $79 million, or a total capital outlay for classrooms in the 1958-1970 period of about $950 million.

It can be seen from the above discussion that population growth will cause public school expenditures to increase substantially over the 1957-1970 period.

2. Higher Education

All of the New England states are expected to have an increase in their college age population, 18-24 years of age, of over 45 percent. These increases in the college age population indicate that state institutions of higher education will have to expand substantially, even if private institutions were to take the same proportion of students as they did in 1959. There are indications, however, that some private institutions will not increase their enrollments this much.[10/] It has been assumed in making these projections that private institutions would take the same proportion of state residents if their expansion were such as to accommodate

10/ See Educational Needs in New England, Federal Reserve Bank of Boston, Research Report, 1970 Projection No. 3, for a discussion of the higher education needs in New England.

them. On the basis of past growth, however, it is not expected that private schools in Maine and Massachusetts will expand this much, thus creating a need for more public facilities in these two states than if private institutions were to expand proportionately. It has also been assumed that the same proportion of state residents attending college will attend schools within their state as at the present time. The validity of this assumption will depend to a great extent upon the facilities that will be available in non-New England states. Population pressures in the college age group will also exist in the states outside of New England. There is a likelihood, therefore, that there will be nationwide tendency for colleges, particularly those supported by the state, to draw their enrollments from state residents. On the other hand, if some of the states were to overestimate the need for additional facilities for higher education, resulting in excess capacity, these states would actively seek out-of-state residents to fill their schools in order to recover their expenditure.

An additional factor to consider in projecting higher education expenditures is the number of persons of college age that will attend college during the years to 1970. The percentage of the college age population attending college has been increasing since the 1930's, and the percentage is expected to continue rising through 1970 because of the improving living standards, increasing technological complexity of the modern world, and increasing emphasis upon educational ability that is expected to continue to 1970. The projections made in this study have assumed a rise of about 0.4 percent per year to 1970 in the percentage attending college. It can also be expected that an increasing number of college students will plan to continue their studies for a greater number of years with more of them seeking graduate degrees because of the same factors as given above for entering college.

The projection of higher education expenditures indicates that Maine and Massachusetts will spend more than four times as much in 1970 as in 1957 for higher education, and that the other four New England states will spend more than three times as much in 1970 as in 1957 for higher education.

3. Public Welfare

Expenditures for public welfare can also be expected to increase because of population growth. Old age assistance will increase because of the growth in the population age 65 and over in all the New England states with the exception of Vermont where this age group is expected to be at the same level in 1970 as in 1957. Population growth also means that there will be more blind and disabled people requiring government aid in 1970. In addition, aid to dependent children, 18 years of age and under, will be larger in 1970 than in 1957 because of the growth in the population eligible for this type of aid. In Connecticut and Massachusetts expenditures for aid to dependent children are expected to increase 28 percent from 1957 to 1970, while Vermont's expenditure for this purpose will increase 27 percent. In each of the other New England states, the increase in expenditures for aid to dependent children will be about 20 percent.

Even larger increases in public welfare expenditures would occur if the amount spent per recipient were to increase and if the age requirements for aid were to be extended. However, the large expenditures required to keep pace with the population growth may prevent increases in benefits to those groups now eligible and extension of benefits to groups not eligible at the present time. In addition, there recently has been considerable publicity given to cases where public welfare benefits have been received by persons who could support them-

selves. This abuse of public welfare may create a climate of public opinion against liberalization of public welfare benefits.

The projections made here assume that increased welfare expenditures will be due solely to the increase in the number of eligible recipients, and that no liberalization of welfare benefit provisions will be made to 1970.

In dollars of 1957 purchasing power, table 5 on the next page shows what state and local governments are expected to spend for public welfare in 1970 as compared with 1957.

Table 5

STATE AND LOCAL GOVERNMENT PUBLIC WELFARE EXPENDITURES, 1957 AND 1970
(thousands of 1957 dollars)

	1957	1970	Absolute Increase 1957-1970	Percentage Increase 1957-1970
NEW ENGLAND	$330,731	$410,643	$79,912	24.2%
Connecticut	41,687	54,605	12,918	31.0
Massachusetts	232,080	290,322	58,242	25.1
Rhode Island	21,296	24,705	3,409	16.0
Maine	18,417	21,062	2,645	14.4
New Hampshire	9,327	11,319	1,992	21.4
Vermont	7,924	8,630	706	8.9

4. Health and Hospitals

The expected growth in all age groups can be expected to create pressures for increased expenditures for public hospital facilities. This is particularly true for the 65 and over age group which will be in need of a large amount of hospital care (persons in this age group require more than twice as much hospital care as those under 65. [11]).

11/ Howard A. Rusk, M.D., "Help for the Aging," The New York Times, August 2, 1959, page 50.

There will be a greater proportion of the population requiring prolonged periods of hospital care. Moreover, the population 65 and over has to rely on public hospital care to a much greater extent than other age groups because a smaller proportion of this group has hospital insurance. At the present time on a nationwide basis, about 65 percent of the 65 and over age group do not have hospital insurance, as compared with 34 percent of the groups under 65 who do not have hospital insurance.[12/] More mental hospitals will be needed as the population over 65 increases, for this is the age group in which the incidence of mental disease is greatest. The percentage growth in the population 65 and over will be greater than the percentage increase in total population in all of the New England states with the exception of Vermont which will show no increase in this age group from 1957 to 1970. Connecticut is expected to show a 35 percent increase in its population 65 and over from 1957 to 1970, followed by Massachusetts with a 24 percent increase and New Hampshire with a 22 percent increase.

The increase in the population also means that the number of retarded children to be cared for will increase. The nationwide average of mentally retarded children to births is three out of every hundred children born. Many of these retarded children will require hospital care for extended periods of time.

The amount of the increase in public hospital expenditures will be partially dependent upon the extent to which private hospitals are expanded to 1970. It has been assumed in these projections that the same proportion of the population will be dependent upon state facilities in the years to 1970 as at the present time.

12/ Ibid.

Likewise, public health expenditures will increase with the growth in population. No attempt has been made in these projections to estimate public health expenditures separately from public hospital expenditures because of the limitations imposed by the available data.

It has been assumed that the amount spent per capita for health and hospitals in 1970 will increase by 10 percent of the increase in the 1947-1957 period. Per capita expenditures for health and hospitals more than doubled during the 1947-1957 period in all of the New England states with the exception of Maine. The reasoning behind the assumption of a smaller percentage increase in these expenditures to 1970 than in the 1947-1957 period is that large expenditures for other government functions will provide a check to increases in health and hospital expenditures. Moreover, the expected rise in the standard of living of New England residents will allow them to provide themselves with more private health and hospital care. It should not be overlooked, however, that higher incomes may create a demand for better public health standards which would have the effect of increasing public health expenditures somewhat. An additional reason for assuming that the rise in per capita expenditures to 1970 will not be as great as in the years 1947 to 1957 is that these past large increases in expenditures indicate that quite substantial gains have already been made in providing better health and hospital services to New England residents.

How much of an increase in health and hospital expenditures from 1957 to 1970 can be expected under the conditions described above? Massachusetts will have the largest increase in these expenditures, about $94 million, with the total being approximately $271 million. Of this total $73 million will be spent on mental health, with about one-third of the mental health expenditure going to the care of retarded

children. Connecticut is expected to spend $21 million more for hospitals and health in 1970 than in 1957. The increase in these expenditures in the other New England states will be as follows: Rhode Island and New Hampshire about $4 million, Maine about $2 million, and Vermont slightly more than one-half million dollars.

B. Urbanization

Both the creation of new urban areas and the redevelopment of existing urban areas are forces which must be considered in projecting public expenditures.

As the future moves ever closer, new urban centers will spring up that will require additional public facilities. Better living conditions in more spacious surroundings will be desired as the incomes of New Englanders increase. These new urban centers will require new highways and streets, new hospitals, additional police and fire protection and sanitation facilities.

Many redevelopment projects are planned or being planned for the downtown areas of cities and towns in New England.[13/] In addition to the construction of new buildings, these urban redevelopment projects will require new local streets, parking areas, and access roads. Experience with redevelopment projects in New England has shown that local contributions to the cost of the project average 95 percent of the federal contribution.[14/] It is possible, however, that there will be some reduction in municipal expenditures that will result from reduced fire, police, inspectorial service and health costs when high density slum areas have been redeveloped.

13/ Joseph F. Turley, Goals In Urban Renewal For New England, Federal Reserve Bank of Boston, Research Report, 1970 Projection No. 6.

14/ Ibid. p.21

1. Police and Fire Protection and Sanitation Facilities

Local government expenditures for police and fire proection and sanitation facilities have been projected to 1970 on the basis of the growth in population. This assumes that there will be no increase in the amount spent per capita for these services, keeping in mind that dollars are assumed to maintain their 1957 value. An improvement in the level of these services, while eminently desirable, does not seem probable during the period to 1970 because of the following considerations. Local governments are going to be faced with large expenditures for highway, education, welfare and health to 1970, and much of the expenditures for improving urban conditions are reflected in these functions. Also local governments may not be able to obtain the needed increase in revenues to provide for the improvement in the level of services in addition to that needed to meet the increased expenditures at present levels. Finally, the increase in expenditures necessary to provide police and fire protection and sanitation facilities for the increased population will be substantial as the increase in absolute amounts of these expenditures shown in table 6 indicates.

It seems likely, therefore, that local governments will not be able to increase expenditures for these "housekeeping" services much beyond the amount required by the growth in population. In the decade of the 1970's, after many of the needed capital improvements to hospitals, schools, and streets have been made, there may be an opportunity to improve the standards of police and fire protection and sanitation facilities.

Table 6

POLICE AND FIRE PROTECTION AND SANITATION EXPENDITURES, 1957 AND 1970
(thousands of 1957 dollars)

	1957	1970	Absolute Increase 1957-1970	Percentage Increase 1957-1970
NEW ENGLAND	$251,309	$292,475	$41,166	16.4%
Connecticut	59,445	72,523	13,078	22.0
Massachusetts	147,074	170,606	23,532	16.0
Rhode Island	20,029	22,032	2,003	10.0
Maine	12,417	13,410	993	8.0
New Hampshire	8,997	10,256	1,259	14.0
Vermont	3,347	3,648	301	9.0

C. Higher Incomes

Increasing incomes are a force that will give rise to additional government expenditures for all types of functions. As the standard of living of the populace improves, demand rises for improved standards of public service, higher salaries are demanded by government employees and by educators, and new services are demanded from the government, for example, new parks, playgrounds, recreation centers, and libraries. Higher incomes are a factor, as the above discussion has shown, in determining the amount that will be spent on higher education, on public welfare, and on hospitals.

1. Highways and Streets

Moreover, an expanding economy, giving rise to higher incomes, is a major force in determining the amount of government expenditures for highways and streets. A growing economy means more truck traffic on the highways, more automobiles on the roads, and more travel will take place because of higher incomes, in addition to the fact that higher productivity with fewer manhours worked gives the populace more leisure time for travel.

In the last half of the 1950's, attention has turned to the need for improvement of the highways, particularly the interstate highways. Long-range plans have been made to build highways that will be adequate for some time to come. These plans, however, are being revised upward as time passes in order to cope with increases in population, with shifts in residential patterns of the population, and with increases in vehicle traffic. It would seem, therefore, that present estimates of needs are subject to revision as time passes, and that highway expenditures will not be made on a "once-and-for-all-time" basis but in a continuous manner over time. Building new highways and replacing or improving existing highways will also mean increases in maintenance expenditures for state and local governments. Highway expenditures will not increase in the same manner for all of the New England states, for some of the states, especially Connecticut, have progressed further with highway building programs than other states.

Highway expenditure projections for capital improvements have been based upon the estimates of the state highway department in each state. Most of the states are planning to complete their portion of the interstate highway building program before 1970. However, the trust fund for the interstate highway program is about to be exhausted because tax receipts are not keeping pace with highway expenditures. If the trust fund is not replenished by some method, for example an increase in the Federal gasoline tax, the New England states will not be able to continue the interstate building program. It has been assumed, therefore, in these projections that the interstate program will not be completed before 1970.

Current operation expenditures for highways have been projected on the basis of increases in road mileage and in the improve-

ment of existing roads. The assumption has been made in making these projections that an inferior road replaced with a more modern one will require the same amount of increase in maintenance expenditure as a newly-built highway.

Under the above assumptions, highway expenditures in each of the New England states have been projected as shown in table 7 on this page.

Table 7

HIGHWAY EXPENDITURES OF STATE AND LOCAL GOVERNMENTS

ACTUAL 1957 AND PROJECTED 1970
(thousands of 1957 dollars)

	1957	1970	Absolute Change 1957-1970	Percent Change 1957-1970
Connecticut	$243,782	$159,277	- $84,505	- 34.7%
New Hampshire	42,242	36,785	- 5,457	- 13.0
Massachusetts	309,272	372,242	+ 62,970	+ 21.1
Vermont	31,495	49,500	+ 18,005	+ 57.2
Rhode Island	31,465	46,416	+ 14,951	+ 47.5
Maine	57,383	63,709	+ 6,326	+ 11.0

D. Public Acceptance

Resistance by the public to increased governmental expenditures exists today, but this resistance may be weakening due to the publicity that has been given to population growth, urban problems, and educational shortcomings. Still, it is much easier to assess the needs that will arise, than to determine the public's response to these needs. It has been assumed, therefore, that the public will allow the expenditures to be made that are projected here.

IV. REVENUE POSSIBILITIES, 1957-1970

No attempt has been made to forecast the increases in tax rates, or the types of new taxes that will be introduced to 1970, again because of the difficulty of determining the public's response. A projection has been made of the amount of revenues that would be forthcoming from the types of taxes and the tax rates in effect in 1958, and this projection shows that revenues would fall short of the projected expenditures. The amount of the deficit in 1970 in each of the New England states for state and local governments combined would be as follows: $644 million in Massachusetts, $48 million in Maine, $68 million in Connecticut, $50 million in Rhode Island, $18 million in New Hampshire, and $11 million in Vermont.

A. Taxation

State and local governments will have to find new sources of revenue to balance revenue and expenditure. Massachusetts, New Hampshire, and Vermont do not have a general sales tax at the present time. This tax is used in 34 of the 50 states at the present time, and several cities have turned to this tax for additional revenue (almost all of the cities over 25,000 population in Illinois and California make use of the general sales tax). Connecticut, Maine, and Rhode Island do not tax individual income at the present time. (Thirty-three of the 50 states have the individual income tax). Thus, each of the New England states could turn to one of these two types (general sales or individual income) of taxes to improve their revenue situation.

In addition, states could raise the rates on existing taxes. Massachusetts which has a flat rate on individual income taxes could change it to a graduated income tax. If states are to cover their pro-

jected highway expenditures in 1970 from gasoline taxes and motor vehicle license fees, it will be necessary for all of them with the exception of New Hampshire to raise license fees and/or gasoline taxes. If license fees were to be raised $2, it would also be necessary to raise gasoline taxes from 2 to 6 cents a gallon in order to obtain the revenue needed to cover highway outlays.

In the projection of revenue from gasoline taxes, it was assumed that the number of persons per vehicle would decline 10 percent from the number in 1957 because the higher income levels would allow more families to own and operate more than one car. Moreover, it was assumed that the average number of gallons of gas consumed per vehicle would fall because of an increasing proportion of smaller cars and other developments which would economize on gas consumption. It was recognized that gas consumption would tend to increase, on the other hand, because higher incomes would allow the populace to travel more miles in 1970. Therefore, a compromise was reached which assumed that the average number of gallons of gasoline consumed per vehicle would fall to 700 gallons in 1970 from about 780 gallons in 1957.

Local governmental units, which have relied upon the property tax for most of their revenue in the past, could raise the charges for their various governmental functions, introduce new taxes (for example, income or sales taxes), or seek more assistance from the state government to obtain the revenues needed to finance their expenditures in order to avoid increasing their bonded indebtedness. Existing property taxes will bring in additional revenue as the economy grows and property increases in value, but some other revenue source, such as those listed above, will be needed to prevent deficits in local government revenues in 1970 if the projections of revenues and expendi-

tures made in this report are realized.

Whether the states will be able to raise tax levies and introduce new taxes, will depend upon the public'a attitude toward the need for expenditure. If Federal tax rates remain at present levels, which is assumed in these projections, or rise to higher levels, the public may not be willing to accept higher taxes at the state and local levels of government.

B. Borrowing

The public's attitude toward borrowing is another area where it is not possible to make a definitive statement. Projections of state and local government indebtedness to 1970 have been made on the basis of the existing amount of long-term debt, of the amount of bond issues that were requested of state legislatures in 1959, of the projected amount of capital outlay expenditures to 1970, and of the expected deficits in revenues from existing sources. But this does not mean that these bond issues will be made.

These projections were made on the assumption that the average length of maturity of long-term bonds is 20 years and that the average interest rate in 1970 will be 3.5 percent. Under these assumptions, the interest on the debt would be higher in 1970 than in 1957 with the exception of Massachusetts. The projection for Massachusetts must be considered too low because of the lack of information concerning future plans to issue bonds. An estimate was made of state indebtedness to 1970 on the basis of the past percentage of government expenditures, and adding the result to the previous estimate of state indebtedness, it was found that Massachusetts would have more than twice as much interest to pay on its long-term debt in 1970 as compared with 1957. Moreover, all the New England states would have sizeable

increases in the amount of long-term debt outstanding at the end of 1970 as compared with the end of 1957.

A projection was also made for local government indebtedness to 1970. Here it was assumed that all capital outlay expenditures for education and highways in the 1958-1970 period would be financed by long-term bonds. The same assumptions as to length of maturity and interest rate were used as in the projection of state indebtedness. As in the case of the states, interest on the debt would be much higher in 1970 than in 1957, and the amount of debt outstanding would be greater in 1970 than in 1957 in all the states. The local governments in New Hampshire in 1970 under the assumptions made here would face an outstanding long-term debt more than four times as large as in 1957. Vermont would have a three-fold rise in the amount of debt outstanding in 1970 as compared with 1957, and Maine would have twice as much long-term debt outstanding in 1970.

These projections of indebtedness indicate what might happen if the state and local governments were not willing or able to raise the revenues necessary to finance their expenditures, and were to turn to borrowing to cover the deficits. If the latter choice were made, the amount of revenue needed to pay interest charges and to repay the debt would be substantial in 1970 and the decade that follows.

V. PAST TRENDS COMPARED WITH THE EXPECTED TRENDS

In Part II the question was raised as to whether past trends or the expected needs of the future should be accepted as the basis for estimating state and local finances to 1970. An answer was given without justification that the expected needs provide the better basis for estimating. The discussion in Parts III and IV justify this answer for the following reasons. First of all, population growth will be at a higher average annual rate in the 1957-1970 period than in the 1947-1957 period. There will be, however, different rates of growth in the various age classes of the population, and this will cause shifts in the amount spent for the various government functions during the 1957-1970 period that would not be expected on the basis of past trends. For example, the emphasis in education expenditures will be shifted from elementary school and, to a lesser extent, secondary school expenditures to higher education expenditures as the decade of the 1960's passes.

Higher incomes will influence the trend of expenditures and revenues to 1970. The impact of higher incomes is most clearly seen in the case of highway expenditures, for it is the change in these expenditures that will be a major part of the change in the level of total expenditures. (Highway expenditures account for about 25 percent of total expenditures). Some states will show increases in highway expenditures to 1970 because of the demand which has not been met as yet for new and improved highways required by a populace that owns and operates more vehicles than ever before. On the other hand, some of the states will have provided for more of the demand for new and improved highways by 1965, thus requiring smaller expenditures in 1970 than in 1957.

There is a backlog of expenditures at the present time, particularly for highways and urban redevelopment. It can be expected that some of this backlog will be reduced as the 1960's pass, but obsolescence will continue and new needs and demands will arise with the passage of time so that a new backlog of expenditure projects will exist to 1970.

Past trends of revenue do not adequately reflect the underlying problems that state and local governments face in financing expenditures. Present revenue sources will not be adequate when projected on the basis of existing tax rates and when population and income growth are taken into account. New sources of revenue must be found by the state and local governments. The problem then becomes one of determining the possible new sources that could be utilized and the response of the public to the need for new revenue.

It can be concluded, therefore, that the forces which prevailed in the past will continue, but their effect will be modified by changes in the economy, changes in the population, and changes in the desires of the population that lead one to rely upon needs rather than past trends in estimating state and local finances.

TABLES OF

PROJECTIONS OF STATE AND LOCAL FINANCES

TO 1970

TABLE 8

LEAST-SQUARE TREND PROJECTIONS OF STATE REVENUES AND EXPENDITURES, BASED UPON DATA FOR 1947-1958 FISCAL YEARS
(1957 dollars)

	Connecticut		Massachusetts		Rhode Island		Maine		New Hampshire		Vermont	
	1957	1970	1957	1970	1957	1970	1957	1970	1957	1970	1957	1970
Total Revenue (excluding borrowing), $000	$329,999	$644,032	$643,398	$1,185,275	$118,597	$200,826	$145,070	$235,040	$86,396	$145,876	$64,658	$105,047
Total General Revenue, $000	283,656	517,430	548,924	911,779	87,516	139,910	107,754	167,373	53,133	81,052	51,964	84,072
Per Capita General Revenue, $ (1)	127.72	187.10	114.05	162.97	103.45	148.31	115.86	164.48	94.21	123.82	140.06	208.00
Total Tax Revenue, $000	227,614	370,402	413,595	602,494	62,563	88,624	70,565	112,160	33,265	47,251	34,916	53,896
Tax Revenue as a Percent of General Revenue	69.0	57.5	64.3	50.8	52.8	44.1	48.6	47.7	38.5	32.4	54.0	51.3
Total Expenditure, $000	444,850	677,252	802,394	1,255,423	124,762	208,542	139,032	242,657	99,638	163,020	66,850	113,396
Total General Expenditure, $000	411,158	506,008	720,082	1,169,026	98,354	146,853	110,921	196,577	71,878	115,641	56,400	93,579
Per Capita General Expenditure, $ (1)	119.46	182.97	149.61	208.95	116.26	155.67	119.27	193.18	127.44	176.66	152.02	231.52
Expenditure By Function												
Education, $000	58,415	114,383	74,895	145,468	16,217	31,912	19,638	31,887	10,846	16,485	13,210	23,363
Highways, $000	214,525	357,427	219,538	393,244	23,065	49,205	36,255	75,373	31,187	55,580	16,465	32,072
Public Welfare, $000	34,643	59,352	92,338	155,705	14,548	25,133	15,380	20,886	6,083	7,424	6,578	10,938
Health and Hospitals, $000	44,720	83,206	109,617	172,255	13,259	23,979	10,269	17,830	8,355	13,881	4,861	8,050
Above Functions as a Percentage of Total General Expenditures	79.1	90.7	61.9	72.2	53.6	62.4	58.6	60.2	56.7	57.3	61.5	65.6

(1) Per Capita amount for 1970 was found by dividing general revenue or expenditure by projected 1970 population.

Source: Data for the fiscal years 1947-1958 from U. S. Bureau of the Census, Compendium of State Government Finances.

TABLE 9

PROJECTION OF STATE EXPENDITURE, BY FUNCTION, FOR 1970
(Fiscal years, thousands of 1957 dollars)

Function	Connecticut 1957 $ amount	Connecticut 1957 % of total	Connecticut 1970 $ amount	Connecticut 1970 % of total	Massachusetts 1957 $ amount	Massachusetts 1957 % of total	Massachusetts 1970 $ amount	Massachusetts 1970 % of total	Rhode Island 1957 $ amount	Rhode Island 1957 % of total	Rhode Island 1970 $ amount	Rhode Island 1970 % of total
Education	$ 58,415	14%	$177,299	38%	$ 74,895	10%	$ 303,384	26%	$16,217	16%	$ 48,539	28%
Highways	215,677	52	112,894	24	227,530	32	231,318	20	23,212	24	28,951	16
Welfare	36,655	9	47,992	10	92,338	13	114,748	10	17,181	11	20,096	11
Health and Hospital, Total	44,720	10	62,943	13	109,617	15	168,235	14	13,259	14	16,999	10
Mental Health												
Current Expenditures												
Mental Hospitals							42,666					
Retarded Children							25,569					
Capital Outlay							4,409					
Total of Above Functions	351,467	85	401,128	85	504,380	70	817,685	70	63,996	65	114,585	65
Total of All General Expenditures[1/]	411,158	100	469,320	100	720,082	100	1,169,290	100	98,354	100	176,461	100

Function	Maine 1957 $ amount	Maine 1957 % of total	Maine 1970 $ amount	Maine 1970 % of total	New Hampshire 1957 $ amount	New Hampshire 1957 % of total	New Hampshire 1970 $ amount	New Hampshire 1970 % of total	Vermont 1957 $ amount	Vermont 1957 % of total	Vermont 1970 $ amount	Vermont 1970 % of total
Education	$ 19,638	18%	$ 84,246	43%	$10,846	15%	$ 37,551	37%	$13,210	23%	$ 42,027	35%
Highways	40,480	36	39,934	20	31,500	44	24,449	24	20,632	36	42,491	35
Welfare	15,893	14	18,048	9	6,083	8	7,360	7	6,765	12	7,183	6
Health and Hospital	10,269	10	12,129	6	8,355	12	10,762	11	4,861	9	5,400	4
Total of Above Functions	86,280	78	154,357	78	56,784	79	80,122	79	45,468	80	97,101	80
Total of All General Expenditures[1/]	110,921	100	197,577	100	71,878	100	100,954	100	56,400	100	120,405	100

1/ 1970 total estimated by multiplying the total of the above functions by the ratio of 1957 expenditures for these functions to total 1957 general expenditures.

TABLE 10

STATE TAX REVENUE, BY SOURCE, ACTUAL 1957 AND PROJECTED 1970
(Fiscal years, thousands of 1957 dollars)

Type of Tax	Connecticut				Massachusetts				Rhode Island			
	1957		1970		1957		1970		1957		1970	
	Amount	% of Total	Amount	% of Total	Amount	% of Total	Amount	% of Total	Amount	% of Total	Amount	% of Total
General Sales	$ 79,198	35%	$ 99,291	32%	*				$15,085	24%	$ 27,598	28%
With proposed increase in rate												
With establishment of the tax							$150,660					
Selective Sales or Gross Receipts												
Motor Fuels	41,993	18	58,674	19	$ 62,393	15%	82,544	15%	9,313	15	16,296	17
With increase in rate (1)			68,453				172,592				21,728	
Alcoholic Beverages	7,310	3	8,938	3	24,984	6	28,981	5	2,358	4	2,594	3
Tobacco Products	10,059	4	12,272	4	28,394	7	32,937	6	3,415	5	3,756	4
With increase in rate												
Insurance	11,002	5	15,293	5	9,327	2	12,993	2	2,228	4	3,326	3
Public Utilities	7,554	4	8,491	3	*		*		4,154	7	6,750	7
Pari-Mutuels	*		*		11,513	3	16,038	3	7,119	11	10,629	11
Uninoorporated Business	2,965	1	2,870	1	*		*		814	1	887	1
Licenses												
Motor Vehicles	12,416	5	20,449	7	17,121	4	21,915	4	5,660	9	6,849	7
With increase in charge of $ 2 per vehicle			23,243				26,203				7,625	
License Tax on Corporations	2,965	1	4,130	1	63,843	15	88,933	16	814	1	1,215	1
Individual Income	*		*		111,222	26	155,155	28	*			
With proposed changes							153,055				24,070	
Corporation Net Income	29,765	13	41,463	14	30,449	7	47,470	9	7,880	12	10,559	11
Death and Gift	15,966	7	22,241	7	20,426	4	28,494	5	2,005	3	2,997	3
Total of above types with no new taxes	217,962	96	294,112	96	387,039	93	515,460	93	60,031	96	93,456	96
Total of above types with rate changes and new taxes			306,685				758,356				123,734	
Total Tax Revenue With No New Taxes (2)	$227,614	100%	$307,141	100%	$413,595	100%	$550,820	100%	$62,563	100%	$ 97,400	100%
Total Tax Revenue With Rate Change and Establishment of New Taxes (2)			$320,271				$810,379				$128,956	

* Indicates no revenue from this source in 1957 and/or no revenue now proposed from this source in the years to 1970.

(1) This is the amount needed to finance highway expenditures if motor vehicle license charges were increased $2 at the same time. The gasoline tax would rise from 6¢ to 9.5¢ in Connecticut, from 5.5¢ to 11.5¢ in Massachusetts, and from 6¢ to 8¢ in Rhode Island.

(2) Total derived by finding the ratio of receipts from above types of revenue in 1957 to total revenue in 1957 and multiplying the ratio times the 1970 projection of revenue from the above sources.

TABLE 10

STATE TAX REVENUE, BY SOURCE, ACTUAL 1957 AND PROJECTED 1970
(Fiscal years, thousands of 1957 dollars)

Type of Tax	Maine				New Hampshire				Vermont			
	1957		1970		1957		1970		1957		1970	
	Amount	% of Total	Amount	% of Total	Amount	% of Total	Amount	% of Total	Amount	% of Total	Amount	% of Total
General Sales	$17,122	24%	$ 29,783	32%	*				*		*	
With proposed increase in rate			32,229									
With establishment of the tax							$13,266					
Selective Sales on Gross Receipts					*							
Motor Fuels	20,907	30	20,531	22	$ 9,156	28%	12,222	28%	$ 6,691	19%	$ 8,132	18%
With increase in rate(1)			29,876								10,634	
Alcoholic Beverages	471	1	509	1	1,031	3	1,175	3	3,019	9	3,291	7
Tobacco Products	*		*		3,216	10	3,666	8	1,857	6	2,024	5
With increase in rate											2,978	
Insurance	2,037	3	2,856	3	1,582	5	2,348	5	976	3	1,327	3
Public Utilities	3,981	6	5,876	6	*		*		1,080	3	1,203	3
Pari-mutuels	836	1	1,172	1	2,812	8	4,173	10	*		*	
Unincorporated Business	*		*		*		*		*		*	
Licenses												
Motor Vehicles	7,883	11	9.854	11	5,609	17	7,011	16	5,645	16	6,718	15
With increase in charge of $2 per vehicle			10,692								7,064	
License Tax on Corporations	*		*		*		*		*		*	
Individual Income	*		*		1,540	5	2,270	5	9,132	26	12,200	27
With proposed changes												
Corporation Net Income	*				*		*		2,283	6	4,306	10
Death and Gift	2,173	3	3,127	3	2,151	6	3,171	7	1,406	4	1,878	4
Total of above types with no new taxes	55,410	79	73,708	79	27,097	82	36,036	82	32,089	92	41,709	92
Total of above types with rate changes and new taxes			86,337				49,302				45,511	
Total Tax Revenue With No New Taxes (2)	$70,565	100%	$ 93,904	100%	$33,265	100%	$44,238	100%	$34,916	100%	$45,379	100%
Total Tax Revenue With Rate Change and Establishment of New Taxes (2)			$109,993				$60,543				$49,516	

* Indicates no revenue from this source in 1957 and/or no revenue now proposed from this source in the years to 1970.

(1) This is the amount needed to finance highway expenditures if motor vehicle license charges were increased $2 at the same time. The gasoline tax would rise from 7¢ to 10.5¢ in Maine and from 6.5¢ to 8.5¢ in Vermont. New Hampshire would not need an increase in the gas tax to meet highway expenditures.

(2) Total derived by finding the ratio of receipts from above types of revenue in 1957 to total revenue in 1957 and multiplying the ratio times the 1970 projection of revenue from the above sources.

TABLE 11

PROJECTION OF STATE EXPENDITURES FOR EDUCATION FOR 1970[1/]
(Fiscal years, thousands of 1957 dollars)

	Connecticut		Massachusetts		Rhode Island		Maine		New Hampshire		Vermont	
Type of Expenditure	1957	1970	1957	1970	1957	1970	1957	1970	1957	1970	1957	1970
Total For Higher Education	$18,658	$ 56,645	$15,639	$ 63,337	$ 6,764	$21,573	$ 8,027	$34,386	$ 7,099	$24,543	$ 6,293	$20,013
Current Operations	13,810	45,159	11,893	49,594	4,972	17,651	6,760	28,189	5,560	19,571	4,854	16,601
Capital Outlay	4,848	11,486	3,746	13,743	1,792	3,924	1,267	6,190	1,539	4,972	1,439	3,412
Total For Other Education	39,757	120,654	59,256	240,047	9,453	26,966	11,611	49,860	3,747	13,008	6,917	22,014
Intergovernmental Expenditure	30,783	43,425	52,900	86,195	6,638	10,622	8,677	10,902	1,756	2,457	5,351	15,099
Total Education Expenditure	58,415	177,299	74,895	303,384	16,217	48,539	19,638	84,246	10,846	37,551	13,210	42,027

1/ Data for 1957 from U. S. Bureau of the Census, Compendium of State Government Finances, 1957. See note on procedure for explanation of the method used to project these expenditures to 1970.

TABLE 12

PROJECTION OF STATE HIGHWAY EXPENDITURES FOR 1970
(Fiscal years, thousands of 1957 dollars)

	Connecticut		Massachusetts		Rhode Island		Maine		New Hampshire		Vermont	
Type of Expenditure	1957	1970	1957	1970	1957	1970	1957	1970	1957	1970	1957	1970
Total Expenditures	$215,677	$112,894	$227,530	$231,318	$23,212	$28,951	$40,480	$39,934	$31,500	$24,449	$20,632	$42,491
Current Operations	22,164	85,331	37,942	94,261	3,773	13,281	13,600	8,704	7,933	9,044	5,996	8,155
Capital Outlay	192,361	25,729	181,596	123,111	19,292	14,137	22,625	24,465	23,254	15,112	10,469	31,774
Aid to Local Government	1,152	1,834	7,992	13,946	147	1,533	5,300	6,765	313	343	4,167	2,592
Aid from Federal Government	4,378	24,601	7,242	33,821	10,589	9,060	3,329	13,950	5,404	8,618	3,901	25,049

Source: 1970 Capital Outlay Expenditure based upon State Highway Department estimates. See description of procedures for method used in arriving at the estimates for the other components of highway expenditure.

TABLE 13

PROJECTION OF STATE PUBLIC WELFARE EXPENDITURE FOR 1970
(Fiscal years, thousands of 1957 dollars)

	Connecticut		Massachusetts		Rhode Island		Maine		New Hampshire		Vermont	
Type of Expenditure	1957	1970	1957	1970	1957	1970	1957	1970	1957	1970	1957	1970
Old Age Assistance	$13,187	$17,802	$52,379	$64,950	$ 5,339	$ 6,247	$ 6,641	$ 7,239	$3,516	$4,290	$3,771	$3,771
Aid to Dependent Children	7,720	9,882	15,207	19,465	4,531	5,392	4,542	5,496	1,269	1,548	1,090	1,384
Aid to the Blind	319	389	2,339	2,713	129	142	323	349	178	203	83	90
Aid to the Disabled	2,206	2,691	5,972	6,928	1,309	1,440	545	589	219	250	337	367
Total of the Above Types	23,432	30,764	75,897	94,056	11,308	13,221	12,051	13,673	5,182	6,291	5,281	5,612
Other Welfare Expenditures 1/	13,223	17,228	16,441	20,692	5,873	6,875	3,842	4,375	901	1,069	1,484	1,571
Total of All Types	36,655	47,992	92,338	114,748	17,181	20,096	15,893	18,048	6,083	7,360	6,765	7,183
Aid from Federal Government	12,207	13,522	50,979	51,112	6,812	7,812	8,962	9,767	3,126	3,139	3,438	3,285
Aid to Local Governments 2/	2,012	3,306	80,297	99,160	2,633	1,566	513	2,526	0	0	187	187

1/ The 1970 amounts were derived by finding the ratio of 1957 expenditures of the first four types of aid listed above to total 1957 welfare expenditures. This ratio was then multiplied times the amount of the four types projected to 1970 to give total welfare expenditures in 1970.
2/ The 1970 amounts were based on the percentage of total expenditures distributed to local governments in 1957.

TABLE 14

TOTAL CAPITAL EXPENDITURES 1958-1970 IN 1957 DOLLARS[1/]

(Thousands of 1957 dollars)

Type of Capital Expenditure	New England	Connecticut	Mass-achusetts	Rhode Island	Maine	New Hampshire	Vermont
Education	$1,358,485	$ 340,483	$ 552,651	$104,086	$128,975	$167,591	$ 64,699
Local	942,414	238,003	420,778	66,895	63,224	119,117	34,397
State	416,071	102,480	131,873	37,191	65,751	48,474	30,302
Highways	4,285,566	704,935	2,292,221	216,382	424,899	265,320	381,809
Local	1,513,775	330,255	828,829	66,271	101,380	122,970	64,070
State	2,771,781	374,680	1,463,392	150,111	323,519	142,350	317,739
Mental Hospitals	955	n.a.	955	n.a.	n.a.	n.a.	n.a.
Total of These Functions	$5,645,006	$1,045,418	$2,845,827	$320,468	$553,874	$432,911	$446,508

1/ See appendix on procedures for explanation of the method used in projecting these capital expenditures.

TABLE 15

PROJECTIONS OF STATE INDEBTEDNESS IN 1970[1]
(Fiscal years, thousands of 1957 dollars)

Type of Projection	Connecticut		Massachusetts		Rhode Island		Maine		New Hampshire		Vermont	
	1957	1970	1957	1970	1957	1970	1957	1970	1957	1970	1957	1970
Projection based on actual and registered issues as of July 1, 1959[2]												
Long-term debt outstanding at end of fiscal year	$388,671	$881,002	$1,013,681	$ 589,614[4]	$76,224	$104,669	$118,802	$164,539	$52,747	$80,556	$15,596	$59,217
Long-term debt retired during year	11,929	40,049	46,610	33,061	3,337	7,981	1,583	4,518	3,188	5,206	1,046	2,942
Long-term debt issued during year	79,153	33,583	135,328	6,083	14,770	7,083	1,000	2,083	0	0	7,737	5,416
Interest on debt[3]	9,391	30,314	22,629	18,434	1,621	12,541	3,807	5,896	1,183	7,437	211	2,947
Projection based on above types of issues plus estimated additional bond issues needed to 1970 [2]												
Long-term debt outstanding at end of fiscal year	388,671	931,705	1,013,681	1,470,478	76,224	128,672	118,802	327,733	52,747	84,749		*
Long-term debt retired during year	11,929	42,458	46,610	80,571	3,337	9,107	1,583	12,200	3,188	5,380		*
Long-term debt issued during year	79,153	40,593	134,328	102,542	14,770	9,694	1,000	20,082	0	596		*
Intrest on debt[3]	9,391	32,083	22,629	49,056	1,621	13,375	3,807	11,562	1,183	7,509		*

1/ It is assumed in these projections that the average length of maturity of long-term bonds is twenty years. It is also assumed that the average interest rate in 1970 will be 3.5 percent.
2/ See description of procedures for more detail on the data used in making the projection.
3/ The 1957 figure is for interest on both short and long-term debt.
4/ See text (section IV, B.) for discussion
* Under the conditions assumed in the projections, no further bond issues would be needed, and the amounts given in the projection above would apply for 1970.

TABLE 16

LEAST-SQUARES TREND PROJECTIONS OF LOCAL REVENUES AND EXPENDITURES FOR 1970[1]
(Fiscal years, thousands of 1957 dollars)

	Connecticut		Massachusetts		Rhode Island		Maine		New Hampshire		Vermont	
	1957	1970	1957	1970	1957	1970	1957	1970	1957	1970	1957	1970
Expenditures												
General, cities over 25,000 population	$145,224	$216,222	$530,371	$ 714,648	$65,633	$ 86,932	$16,568	$ 24,096	$14,542	$ 23,583	$ 3,963	$ 5,323
General, all local units 2/	359,670	486,612	940,531	1,164,962	97,331	125,146	94,069	134,780	69,363	104,001	44,361	66,378
Revenue												
General, cities over 25,000 population	133,962	205,381	516,927	762,180	62,603	94,926	15,813	21,595	13,380	22,043	3,692	5,586
General, all local units 3/	270,343	368,875	686,585	903,168	75,481	110,336	77,350	106,281	60,850	92,360	32,971	57,033
Property tax revenue for cities over 25,000 population	105,347	160,115	322,370	468,965	45,741	68,687	12,639	17,684	11,285	19,458	2,387	3,937
Property tax revenue for all local units	231,074	315,563	590,025	791,167	65,563	95,462	68,925	95,494	52,661	83,864	28,821	52,559

1/ Least-squares projections for cities with population in excess of 25,000 based on data for the years 1947-1957 from United States Bureau of the Census, Compendium of City Government Finances.
2/ Projections for all local governments made by taking the ratio of city expenditures in 1957 to expenditures of all local governments in 1957 and multiplying this ratio times the least-squares projection for 1970 expenditures of cities. Then an adjustment was made of this amount to account for the change in the proportion of total population which will reside in these cities.
3/ Same method used for revenue as was used for expenditures.
4/ Same method used for property tax revenue as was used for expenditures.

TABLE 17

LOCAL GOVERNMENT EXPENDITURES BY FUNCTION, ACTUAL 1957, PROJECTED 1970
(Fiscal years, thousands of 1957 dollars)

	Connecticut		Massachusetts		Rhode Island		Maine		New Hampshire		Vermont	
	1957	1970	1957	1970	1957	1970	1957	1970	1957	1970	1957	1970
Education	$183,321	$177,980	$319,358	$ 337,671	$42,472	$50,223	$46,183	$50,365	$32,349	$32,743	$22,992	$24,416
Total												
Current Operations	130,706	158,231	258,443	302,368	34,660	44,924	40,893	45,281	24,302	29,488	18,562	21,573
Capital Outlay	52,614	19,749	60,916	35,303	7,812	5,299	5,290	5,084	8,047	3,255	4,430	2,843
Public Welfare	5,032	6,613	139,742	175,574	4,115	4,609	2,524	3,014	3,244	3,959	1,159	1,447
Hospital and Health	7,696	10,758	65,923	102,776	2,051	2,604	1,817	2,656	2,857	3,257	783	909
Police and Fire Protection	38,542	47,758	106,841	124,541	12,896	14,213	8,668	10,168	6,425	7,168	2,366	2,715
Sanitation	20,143	24,765	42,868	46,065	7,337	7,819	2,871	3,242	2,659	3,088	829	933
Highways												
Total	28,105	46,383	81,742	140,924	8,253	17,465	16,903	23,775	10,742	12,336	10,863	7,009
Current Operations	21,284	20,452	54,180	77,168	6,512	11,675	13,015	17,635	8,064	2,877	7,930	2,313
Capital Outlay	6,821	25,931	27,562	63,756	1,741	5,790	3,888	6,140	2,678	9,459	2,933	4,696
Total of Above Types of Expenditure	282,839	314,257	756,474	927,501	77,124	96,933	78,966	93,220	58,276	62,551	38,922	37,430
Total General Expenditure(1)	359,670	399,622	940,531	1,153,162	97,331	122,329	94,069	111,048	69,363	78,264	44,361	42,660
Aid From State Government Included in the Above Expenditures:												
Education	$ 30,783	$ 43,425	$ 52,900	$ 86,195	$ 6,638	$10,622	$ 8,677	$10,902	$ 1,756	$ 2,457	$ 5,351	$15,099
Public Welfare	2,012	3,306	80,297	99,160	2,633	1,566	513	2,526	0	0	187	187
Highways	1,152	1,834	7,992	13,946	4,162	1,533	4,255	6,765	313	343	147	2,592

(1) The 1970 figure was derived by multiplying the total of the above types of expenditure in 1970 by the ratio of the expenditures on these types in 1957 to total general expenditures in 1957.

TABLE 18

PROJECTION OF LOCAL GOVERNMENT INDEBTEDNESS IN 1970[1]
(Fiscal years, thousands of 1957 dollars)

	Connecticut		Massachusetts		Rhode Island		Maine		New Hampshire		Vermont	
	1957	1970	1957	1970	1957	1970	1957	1970	1957	1970	1957	1970
Long-term Debt Outstanding at End of Fiscal Year	$530,697	$684,259	$1,156,396	$1,597,040	$173,428	$197,038	$75,467	$171,592	$59,251	$226,380	$39,718	$99,875
Long-term Debt Retired During Year	29,238	33,714	72,794	78,574	16,624	9,786	4,623	8,309	4,870	10,853	2,997	4,824
Long-term Debt Issued During Year	75,563	43,707	126,500	104,129	17,596	11,097	9,779	13,716	10,261	20,174	6,088	8,202
Interest Paid on Debt[2]	11,525	24,364	29,684	58,647	5,205	7,045	2,025	6,057	1,560	7,950	1,052	3,521

1/ It is assumed that the average length of maturity of long-term debt is twenty years and that the interest rate is 3.5 percent in 1970. It is also assumed that all of the capital outlay expenditures for highways and education would be financed by long-term bonds during the 1958-1970 period.
2/ The 1957 amount includes interest on short-term debt.

TABLE 19

SUPPLEMENTARY CALCULATIONS: REVENUE AND EXPENDITURE PER CAPITA 1957, 1970

(1957 dollars)

	New England		Connecticut		Massachusetts		Rhode Island		Maine		New Hampshire		Vermont	
	1957	1970	1957	1970	1957	1970	1957	1970	1957	1970	1957	1970	1957	1970
Total General Expenditure of State and Local Governments ($000) 1/	$3,074,118	$4,141,092	$770,828	$868,942	$1,660,613	$2,322,452	$195,685	$298,790	$204,990	$308,625	$141,241	$179,218	$100,761	$163,065
Per Capita General Expenditure of State and local Governments ($)	312.54	363.86	339.72	314.15	344.02	415.09	228.34	316.85	218.31	303.17	246.49	273.62	272.33	403.63
Per Capita Education Expenditures of State and Local Governments ($)	85.39	120.06	106.54	128.44	81.68	114.58	68.48	104.73	70.10	132.23	75.38	107.32	97.84	164.46
Per Capita Expenditures for Higher Education ($)	6.35	19.37	8.22	20.48	3.25	11.32	7.89	22.88	8.55	33.78	12.39	37.47	17.01	49.54
Per Capita Expenditures for Local Schools ($)	65.75	59.17	80.79	64.34	66.16	60.35	49.56	53.27	49.18	49.47	56.46	49.99	62.14	60.44
Per Capita Highway Expenditures for State and Local Governments ($)	72.40	63.96	71.97	57.58	63.12	66.53	36.59	49.22	62.38	62.58	74.11	56.16	85.94	122.52
Per Capita Public Welfare Expenditures for State and Local Governments ($)	33.48	36.07	18.40	19.74	47.77	51.89	24.81	26.20	19.64	20.69	16.28	17.28	21.54	21.12
Per Capita Health and Hospital Expenditures for State and Local Governments (4)	28.14	35.38	23.12	26.64	36.74	48.44	17.88	20.79	13.35	14.52	23.44	26.29	15.39	15.62
Total General Revenue of State and Local Governments ($000) 2/	2,318,199	3,302,207	556,317	800,596	1,218,554	1,678,850	164,755	248,602	182,502	260,835	112,318	161,465	83,753	151,859
Per Capita General Revenue of State and Local Governments ($)	235.68	290.15	245.18	289.44	252.44	300.06	192.25	263.63	194.36	256.22	196.02	246.51	226.36	375.89
Per Capita State Tax Revenue ($)	90.74	100.07	100.32	111.04	85.68	98.44	73.00	103.29	75.15	92.24	58.05	67.54	94.37	112.32
Per Capita Local Property Tax Revenue ($)	105.44	126.01	101.84	114.09	122.23	141.41	76.50	101.23	73.40	93.80	91.90	128.04	77.89	130.10
Total General Expenditure of State and Local Governments as a Percentage of Personal Income (%) 3/	13.5	12.7	11.9	9.6	14.7	14.4	11.6	11.8	13.0	13.3	13.2	11.1	15.9	18.7
Total General Revenue of State and Local Government as a Percentage of Personal Income (%) 3/	10.2	10.2	8.6	8.8	10.8	10.4	9.7	9.8	11.6	11.2	10.5	10.0	13.2	17.5

1/ The 1957 data were taken from U. S. Bureau of the Census, State and Local Finances In 1957. The 1970 figure is the sum of state general expenditures from Table 2 and local general expenditures from Table 10.

2/ The 1957 data were taken from U. S. Bureau of the Census, State and Local Finances In 1957. The 1970 figure was obtained by adding local general revenue from Table 9 to state general revenue (the latter was found by multiplying total tax revenue with no rate change in 1970 from Table 3 by the ratio of 1957 general tax revenue to 1957 total general revenue) aid from the Federal Government, and aid to the local government.

3/ The 1957 percentage calculated from personal income data of U. S. Department of Commerce. The 1970 percentage based upon personal income projections of the Federal Reserve Bank of Boston.

APPENDIX

ESTIMATING PROCEDURES

PROCEDURES USED IN ESTIMATING REVENUE AND EXPENDITURES FOR 1970

I. PROJECTIONS OF TOTAL EXPENDITURES AND REVENUES

A. For Each New England State: (Table 8)

1. Data for state revenue and for state expenditure were taken from the United States Bureau of the Census publication, Compendium of State Government Finances, for the fiscal years 1947-1958. Revised statistics were available for the years 1948 and 1950 in the Census publication, Revised Summary of State Government Finances, issued in 1953, and these revised figures were incorporated into the revenue and expenditure series.
2. The Wholesale Price Index (WPI) was used to adjust the revenue and expenditure data to constant 1957 dollars. In order to make this adjustment, however, it was necessary to adjust WPI to a fiscal year basis since the revenue and expenditure data were given by fiscal years (June 30 is the end of all fiscal years in the New England states). The WPI by months was taken from the Monthly Labor Review for the years 1947-1958 with 1947-1949 equal to 100. The monthly data were then averaged on a fiscal year basis for the 1947-1958 period. The next step was to convert the revised WPI from the 1947-1949 base to 1957 equal to 100. Finally, the revenue data, by source, and the expenditure data, by function, were adjusted to constant 1957 dollars by means of the adjusted WPI.
3. A four-year moving average of total revenue and of total expenditure was computed for each state. The secular trend showed linearity in revenue receipts for all the states. The trend of total expenditures was linear for all the states except

Connecticut. The trend for Connecticut turned up sharply over the years 1956-1958. It was thought that much of the nonlinearity in the Connecticut expenditure series was due to large capital outlays for highways in the 1956-1958 period. Therefore, a four-year moving average of current operation expenditures was computed and plotted. But the same nonlinear trend was apparent as in the case of total expenditures. A second-degree trend equation was used to project Connecticut expenditures, but the trend deviated sharply from the actual movement of the data over the 1947-1958 period. It was decided, therefore, to make least-squares, straight-line projections for all of the New England states, including Connecticut. The results for Connecticut expenditures using the straight line projection seemed reasonable, in view of the fact that the revenue projection, which used data showing a very linear trend over the 1947-1958 period, was $644 million for 1970 and the expenditure projection for 1970 was $33 million higher at $677 million. Moreover, in 1957 Connecticut expenditures were $115 million higher than revenue receipts.

In view of the large expenditures that Connecticut has made over the past few years and the indications that the state expects to continue these large expenditures into the 1960's, it would seem that Connecticut's expenditures by 1970 may be much lower than the straight-line projection indicates because the state's building program will have progressed further towards becoming adequate, especially in the case of highways. Therefore, projections of expenditures by function, giving attention to the needs of the state, which are made below, should give a much better estimate of Connecticut's expenditure in 1970.

Least-squares trend projections were also made for tax revenue and for expenditures by function to 1970. The projection for highway expenditures in Connecticut bears out the observations made above about turning to another method of projection in order to obtain a more accurate estimate. For a $142 million increase in highway expenditures in 1970 as compared to 1957 seems highly improbable for Connecticut.

4. Least-squares trend projections were made of the per capita general revenue and general expenditure data for the 1947-1958 period. (Per capita data are not given for total revenue and for total expenditure in the Census publications). The projected per capita figures for 1970 were multiplied by the population estimated for 1970 by Sweetser to give total general revenue and total general expenditure for each state in 1970. General revenue as a percentage of total revenue in 1958 was computed and compared with the percentage of general to total revenue in the 1970 estimates. The same procedure was carried out for general and total expenditures. The comparisons ranged from identical percentage in the two periods to a difference of 11 percent in the two periods.

B. For Local Governments in Each State: (Table 16)

1. Data were not available for local revenues and expenditures over a period of years for all local governments within a state. Data are available for local governments only for the year 1957 in the United States Bureau of the Census, State and Local Government Finances in 1957. There are, however, data available for the 1947-1957 fiscal years for cities with populations in excess of 25,000 in the Bureau of the Census publication,

Compendium of City Government Finances. Since the data for the years 1947-1949 were based on the population census of 1940, and the data for the 1950-1957 period on the 1950 population census, it was necessary to make the following adjustments to obtain comparability in the data. For the years prior to 1950, it was necessary to exclude the data for the city of Central Falls, Rhode Island, which was not above 25,000 in population in 1950. The Massachusetts data in the 1950-1957 period were reduced by subtracting the revenue and expenditures of the cities of Gloucester and Northampton because these cities did not have a population of 25,000 or over in the 1947-1949 period. After the above adjustments were made, the data were adjusted to constant 1957 dollars by the adjusted Wholesale Price Index.

2. Projections by the least-squares method were made to 1970 for total general revenues and general expenditures of the cities with populations in excess of 25,000. Then, in order to obtain a projection for all local governments within each state of general revenues and general expenditures, the ratio of the revenues and expenditures of these cities to the revenues and expenditures of all local governments in 1957 was computed and multiplied times the projections for 1970 of general revenue and expenditures of the cities.

An adjustment was then made to take into account the change in the proportion of the state population that these cities will contain in 1970 as compared with 1957. Data on the population of these cities in 1940 and 1950 was obtained from the Compendium of City Government Finances. The trend of the growth

from 1940 to 1950 was then projected to 1970. Next the percentage of population in cities to total state population in 1957 and 1970 was then determined. Finally, the ratio of the 1957 to 1970 percentage was determined and multiplied times the 1970 projection.

II. PROJECTION OF EXPENDITURES BY FUNCTION

A. Welfare Expenditures for Each State: (Table 13)

1. Old Age Assistance

This item was projected by multiplying the 1957 expenditures by the ratio of the 1957 state population 65 years and over to the state population 65 and over, as given in Sweetser's projections,[15/] in 1970. The 1957 population in the 65 and over age group was obtained from Current Population Reports, "Estimates of the Civilian Population by the Broad Age Groups, for States; July 1, 1957," by the Bureau of the Census, released February 16, 1959.

In 1958 changes were made in the formula to determine the amount of Federal Government aid to this program. The Federal Government pays four-fifths of the first $30 of the average payment per recipient. The number of recipients and the average payments per recipient by state in 1958 were taken from the New York World-Telegram, Book of Facts, 1959. The original source of these figures is given in the Book of Facts as the Social Security Administration. Assuming that the change in the population 65 and over from 1957 to 1958 was small, and finding population by age groups for 1958 not available, it was decided to compute the percentage that the number of recipients in 1958 was to the population 65 and over in 1957. This percentage then was taken of the expected population 65 and over in 1970 to give the number of recipients in 1970. The resultant figure for the number of recipients was multiplied by $30, and four-fifths of this amount was then multiplied by twelve, giving

15/ Frank L. Sweetser and Everett J. Burtt, Population and Labor Force Projections for Six New England States to 1960 and 1970, Federal Reserve Bank of Boston, Research Report, 1970 Projection No. 5, hereafter cited as Sweetser's projections.

the amount paid yearly by the Federal Government to the state.

2. Aid to Dependent Children

To project aid to dependent children, the amount spent for this purpose in 1957 was multiplied by the ratio of the state's population 18 years and younger in 1957 to the population 18 years and younger that is estimated for 1970 as given in Sweetser's projection. Sweetser's data, however, had to be adjusted for they give an age class of 15-19 years. Therefore, the age class 15-19 was reduced by one-fifth and added to the age classes under 15 years of age to give the population 18 years or under in 1970.

The formula for Federal Government aid in this case is $14 of the first $17 of the average payment to the recipient and 50 to 60 percent of the amount over $17 up to $30 per recipient. The number of recipients expected in 1970 was determined in the same way as for Old Age Assistance. Then this population was multiplied by $14. Next the population was multiplied by $6.50, 50 percent of the difference between $17 and $30. The two results were added together and multiplied by 12 to give the yearly payment in 1970.

3. Aid to the Blind and Aid to the Disabled.

Each of these items was multiplied by the ratio of total population in 1957 to total population expected in 1970.

Aid from the Federal Government was determined in the same manner as was used for Old Age Assistance since the formula is the same as for that item.

4. Total Welfare expenditures

The ratio of the sum of the above types of expenditures

to total welfare expenditures in 1957 was multiplied by the sum of the above items projected to 1970.

B. Welfare Expenditures for Local Governments in Each State: (Table 17)

1. The 1957 population over 65 years of age and the population 18 years and under were added together. Likewise, these two age groups were added for 1970 from Sweetser's projections. The ratio of 1957 population to the 1970 population was determined and multiplied times the 1957 expenditures to give the 1970 estimate. The ratio of the above two age groups was used rather than the ratio of total population because it was felt that the major portion of local expenditures would be concerned with these age groups. In all the states the total population ratio is less than the ratio using these two age groups. No breakdown could be made of total welfare into the various types of welfare for local expenditures because the data were given only by total.

C. Health and Hospital Expenditure for Each State: (Table 9)

Projections were made of total expenditures by multiplying 1957 expenditures by the ratio of total population in 1957 to total population in 1970.

Information on needs and expected expenditures in the future is limited. For Massachusetts, however, the Audit of State Needs has made estimates for the needs in mental health and the care of retarded children. An estimate of the population in mental hospitals in 1970 was given in the Audit of State Needs report, along with the cost per day per person in state hospitals. The annual cost per person was determined and multiplied by the

estimated population to give current operation expenditure in 1970 for mental health. In the case of retarded children, it was reported that three out of every hundred children born are mentally retarded, and that the annual cost of administering to a retarded child is $1,250. The increase in Massachusetts population 1957-1970 was determined and 3 percent of this number was taken as the number of new retarded children expected from 1957 to 1970. The 1957 population in hospitals was added to this number. Then the number of discharges as a percent of total patients was computed for 1957, and this rate of discharge, 5 percent, was applied year by year to 1970, after adding the average number of new cases per year to the present population in hospitals. The resultant population for 1970 was then multiplied by the 1957 expenditure per patient to give the expected 1970 expenditure.

A five year capital improvement program for the Mental Health Department of Massachusetts has been recommended by the Division of Building Construction amounting to $48.5 million. If this program were started next year and spread over the 11 years to 1970, the expenditure in 1970 would amount to $4,409 thousand.

D. Health and Hospital Expenditure for Local Governments: (Table 17)

This projection was made by multiplying 1957 expenditures of local governments on health and hospitals by the ratio of total population in 1957 to total population in 1970.

E. Higher Education Expenditures for Each State: (Table 11)

The college age population, 18 to 24 years, in 1970 was derived from Sweetser's population projections in the follow-

ing manner. Forty percent of the population in the 15-19 age class was taken as the population 18-19 years old. This number was then added to the population in the 20-24 age class to give the population 18-24 in 1970. Projections of this age group to 1973 by the New England Board of Higher Education in their publication, Two Surveys, were compared with the population estimate made above. The percent increase in college age population, based on the two population estimates, from 1970 to 1973 would be 15 percent for Connecticut, 12 percent each for Maine and Vermont, 6 percent for Rhode Island, 5 percent for Massachusetts, and 4 percent for New Hampshire.

An estimate was then made of the percentage of the 18-24 age population in 1970 that would attend college. For Massachusetts, 32 percent was chosen for the following reasons. The Massachusetts Special Commission on Audit of State Needs in their study, Needs in Massachusetts Higher Education, reported that 27 percent of the population age 18-21 now attend college, and that the percentage has been increasing each year. Moreover, the Commission pointed out that 40 percent of last year's high school graduates indicated that they planned on going to college. In their study the Commission used 33 percent of the college age population as the minimum enrollment in 1967, 36 percent as the possible enrollment, and 40 percent as the maximum enrollment. In addition to the above considerations, the Metropolitan Life Insurance Company in their Statistical Bulletin, August 1957, reported that the national average of the college age population going to college

has risen from 7.1 percent in 1930 to 21.2 percent in 1957, and that the percentage can be expected to continue rising through 1970. In other words, the percentage nationally rose on the average 0.5 percent per year from 1930 to 1957. Since the Massachusetts percentage was 5.8 percent greater than the national average in 1957, it was decided that the average rise per year nationally should be adjusted to 0.4 percent for Massachusetts. Applying this 0.4 percent rise per year to the present Massachusetts percentage of 27 percent, gives a figure of about 32 percent for 1970.

The same percentage was chosen for Connecticut because of the similarity of Connecticut to Massachusetts in the percent of the population 25 years old and older with four or more years of college in 1950, Connecticut 7 percent and Massachusetts 7.2 percent. The ranking of the states in the percentage of the population with four or more years of college in 1950 would seem to be a rough measure of the difference to be expected among the New England states in the percentage attending college in 1970 for the following reasons. One, the population over 25 in 1950 accounts for a large proportion of the parents of the children that will attend college in 1970. Secondly, it would be expected that more children will attend college from families with a background of college training, than from families without this background.

For the other New England states, therefore, the percentage was determined by subtracting one percent from the Massachusetts figure of 34 percent for every 0.5 percent decline in the percentage of the population completing four years of

college.

These percentages of the college age population that would be expected to attend college in 1970 were then applied to the 18-24 population to give the number of students attending college in 1970 from each of the New England states.

Next it was necessary to determine the number of students that would attend college within their own state in 1970. The percentage of students that did so in 1957 was taken from the New England Board of Higher Education publication cited above. This percentage was then taken of the number expected to attend college in 1970.

Finding the percentage of state residents attending public institutions of higher education within the state in 1957 was the next step. The number of full time undergraduate and graduate students attending public institutions in 1957 as a percent of all undergraduate and graduate students enrolled full time in both public and private institutions within the state in 1957 was found from the data in the New England Board of Higher Education study.

The percentage thus found was taken of the 1970 population expected to attend college within the state to give the number of students attending public schools in the state in 1970.

However, it cannot be assumed that private institutions will expand in the 1957-1970 period to accommodate the same proportion of state residents as in 1957. According to the New England Board of Higher Education, private institutions are not planning to expand at this rate, but no quantitative

estimate has been made of their likely rate of expansion.

Data on the number of students enrolled in private institutions in each New England state in the 1951-1952 and 1955-1956 school years were taken from United States Office of Education, Biennial Survey of Education in the United States. The growth in private school enrollment between these school years was projected to 1970 in order to determine if private school enrollment would increase enough to maintain the same proportion of state residents in private schools as in 1957, assuming that private schools would continue to expand as they did from 1952 to 1956. Using this assumption, it was found that the private institutions of Maine and Massachusetts would not expand enough to take the same proportion of state residents in 1970 as in 1957. In fact, public schools in Maine would have to provide for 1780 more students, and public schools in Massachusetts would have to provide for 12,718 more students.

After making these revisions for the number of students expected to attend state schools in Maine and Massachusetts, the ratio of 1957 enrollment in public institutions to expected 1970 enrollment in public institutions was computed. This ratio was then multiplied by 1957 operation expenditures of public institutions of higher education to give expected current operation expenditures in 1970.

The method of projection used here assumes that any expansion of private schools will be used to provide for state residents up to the same proportion as existed in 1957.

1. Capital Outlay Expenditure for Higher Education

The Commission on the Audit of State Needs reports

in their Needs in Massachusetts Higher Education that the Massachusetts Division of Building Construction has recommended a $59,671 thousand expansion program for state supported universities. If this sum is made available, the state schools estimate that they could provide for 22,395 students in 1967. On the basis of these figures, a projection of capital outlays for higher education in Massachusetts was made for 1970. The ratio of the estimated number of students to be provided with facilities in 1967 to the number of state residents expected to attend public institutions in 1970 was computed. The resultant ratio was then multiplied times the amount of the five-year building program to give the total expenditure, $131,873 thousand, needed to provide facilities for state residents attending public institutions in the 1957-1970 period. In order to determine the amount of capital expenditure needed each year over the period, the following procedure was used. The United States population in the 18-24 age group for the years 1950, 1957, 1960, 1965 and 1970 was taken from United States Bureau of the Census estimates in their Population Reports. Then from Sweetser's estimates the population in each New England state in the 18-24 age group was estimated for the years 1950, 1960, and 1970. The percentage that each New England state's population was of the United States population in 1950, 1960, and 1970 was determined, and an interpolation of these percentages was made for the years 1957 and 1965 in order to arrive at an estimate for New England of the

population 18-24 in each of the five years. Next the Massachusetts population in this age group was plotted for the five years and a straight line drawn between the points. The total amount of capital outlay was then distributed over the thirteen-year period, 1958-1970, on the basis of the trend of the population 18-24 over these years.

The Connecticut Public Expenditure Council in their publication, Higher Education in Connecticut...Whose Responsibility?, gives a figure of $56,000 thousand as the amount of capital outlay needed by 1965 if the public institutions are to expand to a 20,000 enrollment by that time. The ratio of 1965 capacity to the number of state residents expected in public schools in 1970 was computed. This ratio then was multiplied times the expenditure to 1965 to give the amount, $102,480 thousand, of capital outlay needed to 1970. As in the case of Massachusetts, the total of capital expenditure was allotted to the 1958-1970 period on the basis of the trend of the 18-24 age population in Connecticut over the 1957-1970 period.

For the other New England states, an estimate was made of school construction needs to 1970 by finding the average cost per pupil of building schools from the data given above for Massachusetts and Connecticut. The cost per pupil in Massachusetts was found to be $5,457, while the cost in Connecticut was found to be $3,101. These two figures were averaged and rounded to $4,300. The $4,300 figure was then multiplied by the increase in state resident enrollment from 1957 to 1970 to give the cost for building facilities to meet the increased enroll-

ment. The total cost was then distributed over the 1958-1970 period in the same manner as was used for Massachusetts and Connecticut.

No attempt has been made in the projections to determine the amount of capital outlay that will be made for replacement of existing facilities. With the increase in the population seeking to enter college, it may be that little replacement of existing facilities will be made, and that most of the expenditures will be for expansion.

F. Other Education Expenditures for Each State: (Table 11)

Other education expenditures as defined by the United States Bureau of the Census included provision, support, and supervision of libraries, schools for the blind, deaf, and otherwise handicapped, and education programs for veterans.

This is such a conglomerate group of activities that no attempt was made to project the different types of activities. Instead, the ratio of higher education expenditures to other expenditures in 1957 was determined and multiplied by the projected higher education expenditures for 1970 to give other education expenditures in 1970.

G. Education Expenditures of Local Governments: (Table 17)

1. The number of pupils expected to attend public elementary and secondary schools in each New England state in 1970 were obtained from the Bank's Research Report No. 3, Our Education Needs in New England.

2. To estimate current operation expenditures in 1970, the school population in 1970 was multiplied by the average

current expenditure for public education per pupil enrolled in 1955-1956 as given in the Biennial Survey of Education published by the U. S. Office of Education.

3. The following procedure was used in projecting capital outlays for public schools. The number of pupils in excess of normal capacity in 1957 was found in the 1958 Statistical Abstract, along with the number of instruction rooms scheduled for completion during fiscal 1958. An assumption was made that each room would provide for 27 pupils. The number of rooms being built in 1958 was multiplied by 27 to give the number of pupils that would be provided with facilities in 1958. Then the pupil increase from 1957 to 1970 was determined and added to the excess pupils in 1957. From this total the number of students provided with facilities in 1958 was subtracted, giving the pupils needing school rooms by 1970.

Data on the cost per pupil of building school facilities in 1957 was obtained from the United States Office of Education, Eighth Annual Report of the United States Commissioner of Education, Administration of Public Laws 874 and 815, June 30, 1958. No figure was given in this publication for the cost of building school facilities in Vermont. Therefore, a figure of $1,100 was chosen somewhat arbitrarily for Vermont. This figure seemed reasonable in light of the fact that the figures for Maine and New Hampshire were $1,130 and $1,140, respectively. The cost per pupil was then multiplied by the number of pupils needing facilities to 1970 to give the total cost of supplying facilities for adequate capacity over the years 1958-1970.

This total cost figure was then distributed over the years on the basis of the growth in the population 5-17 years of age from 1957-1970. The estimated population in this age group was available for the years 1957, 1960, 1961, 1962 and 1963, from United States Bureau of the Census, Current Population Report, series P-25, number 201, released June 1, 1959. The Census data was used in conjunction with Sweetser's estimate for 1965 and 1970 in plotting the trend of the population in the 5-17 age group.

Projection of the cost of replacing obsolete facilities was made as follows. The Massachusetts Department of Education reported in 1959 that 302 schools in Massachusetts are unsafe and need replacement, and that the 302 schools include 2,489 classrooms which would provide for 70,000 pupils (this comes out to about 28 pupils per classroom). Multiplying the 70,000 pupils by the cost per pupil used above gives a total expenditure of $95,900 thousand over the 1959-1970 period. This total cost figure was then divided by the number of years, twelve, in this period to give the average expenditure per year and the capital outlay expenditure for replacement in 1970. That is to say, an assumption was made that the obsolete school facilities now in use would be replaced by 1970, but that any further obsolescence over the 1959-1970 period would not be replaced by 1970. In considering expansion expenditures above, the amount to be spent each year was considered to be dependent upon the growth of the school population, but for replacement expenditures the amount to be spent each year was not considered to be dependent

upon the growth of the school population. Hence, the average expenditure per year was thought to be the best method of distributing the total over the 1959-1970 period.

No data on the number of obsolete classrooms in use in the other New England states have been found to date. A rough estimate was made of the obsolescence, however, based upon the Massachusetts data given above. The percentage of the total Massachusetts school enrollment in obsolete classrooms in 1957 was estimated by dividing total enrollment in 1957 by the number of pupils in obsolete classrooms as reported by the Massachusetts Department of Education last May. The number reported last May was not for 1957, in all probability, but it was thought that the year's difference would not affect the results substantially. The percentage of total enrollment in obsolete classrooms was found to be 9 percent. This percentage was taken of the total 1957 enrollment in each of the other New England states. Then the estimated number of pupils in obsolete classrooms was multiplied by the cost per pupil for constructing new classrooms to give the total replacement cost. The average replacement cost per year was then determined to give the 1970 projection.

6. State aid to public schools was projected by determining the amount of aid per pupil in 1957, that is, by dividing the 1957 school enrollment into total intergovernmental expenditure for public schools. This amount of aid per pupil was then raised by the same percentage as the percentage increase in public school expenditures, for it was assumed that the states would bear the same proportion of

school costs in 1970 as in 1957. In the case of Vermont, however, the projection was made on the basis of a report that there is consideration of raising the amount of aid from $75 to $100 per pupil.

H. Highway Expenditures for Each State: (Table 12)

1. The procedures for projecting Rhode Island's highway expenditures were as follows. Projected expenditures for state highway construction in 1970 were taken from the Rhode Island Governor's Highway Study Committee report, Rhode Island's Roads. The report contained five different projections, based on different financing programs and different periods of time for completing the building program. The Committee recommended the twenty-year bond amortization plan and the fifteen-year building program. The projection with these time periods was chosen as the one most appropriate for projecting total highway expenditures to 1970 because it involves the longest time for the completion of the highway program. If the program were completed in less than fifteen years and/or one of the other financing programs were used, the 1970 expenditures would be smaller than projected here. The Committee's projection was made in 1954 dollars. Therefore, the projection was converted to 1957 dollars by using the Wholesale Price Index.

2. Current operation expenditures in 1970 were estimated by computing the ratio of the 1957 mileage of Rhode Island state roads to the mileage expected in 1970, and multiplying this ratio by the 1957 amount of current expenditures.

3. Capital outlay expenditures for the other New England states were projected to 1970 by the following methods.

Data were furnished by the Vermont Highway Department on the total amount of Federal, state, and local funds that would be required from January, 1960 to January, 1970.

The average amount per year of the estimated total of Federal and state funds to be spent over the 1960-1970 period was taken as the amount that would be spent in 1970.

For Maine the Highway Department supplied projections of highway construction expenditures, that is, the amount of Federal, state, and local funds required, for the years 1960 through 1969. The projection for 1970 was made by extending the trend of their projection to 1970. It is possible, however, that the time schedule for completion of the Federal portion of the highway program will be lengthened, and will cause greater expenditures for this program in 1970. The trust fund for the inter-state highway program was near exhaustion last year because tax receipts were not keeping pace with highway expenditures. The President asked for a 50 percent boost in the gas tax in 1959 to keep the trust fund solvent.

The Connecticut Highway Department furnished data on primary, secondary, and urban road expenditures for the years 1960-1968. The trend of these figures was extended to 1970. For the interstate program, however, a figure was given only for 1960. To arrive at a projection for 1970 for expenditures on the interstate system in Connecticut, the percentage change from year to year in proposed expendi-

tures for this program in Maine was applied to the Connecticut figure for 1960.

For New Hampshire the Highway Department supplied projections of highway construction expenditures for the years 1960 through 1968 for all types of roads, with the exception of the interstate system. A rough estimate for the New Hampshire interstate system was made by taking the data on the interstate highway construction needs for 1955-1964 for New Hampshire from Needs of the Highway Systems, 1955-84, a letter from the Secretary of Commerce to the United States House of Representatives in 1955. The states supplied their estimates for this report on the basis that the highway system would be adequate by 1964, and would only need to be maintained for the next twenty years. New Hampshire's cost estimate for interstate roads was found, after deducting the amount spent on capital outlays for the system during 1955-57, for the program completed in 1964. The cost was given in 1954 dollars, and this was changed to 1957 dollars by means of the Wholesale Price Index. Assuming that the program would not, in fact, be completed before 1970, the total cost was divided equally over the 1958-1970 period to give the projection for the interstate expenditures of New Hampshire in 1970.

The Massachusetts Highway Department supplied cost estimates for all types of roads for the 1960-70 period. The average amount per year of the estimated total of Federal and state funds to be spent over the 1960-70 period

was taken as the amount that would be spent in 1970 by Massachusetts.

4. Current operation expenditures for highways in 1970 for all the states except Rhode Island were projected by the following procedures. Data on highway construction needs for the 1955-1964 period were obtained from the Needs of the Highway Systems cited in (3) above. No figures were given in this report on the mileage to be constructed with the funds. The report, however, did contain the national average cost per mile of building the different types of roads.

To obtain an estimate of the mileage that was to be built with the funds, the average cost per mile of each type of road was divided into the total cost for each type of road, after the total cost had been reduced for roads built since 1955 by subtracting the capital outlay on highways for the years 1955-1957.

The ratio of total mileage controlled by the state in 1957 to the estimated mileage to be built by 1964 was determined and multiplied by the current operation expenditures in 1957 to give current operation expenditures in 1970. Under the conditions used by the states in making their estimates, the estimated total road mileage in 1964 would presumably be the same amount as in 1970. The estimated total mileage in 1964 found above, however, is not a figure for expansion of the system, rather it indicates both expansion and replacement of roads. It would seem to be a credible assumption that an inferior road replaced with a

more modern one would require almost as much of an increase in maintenance as a newly built road. Therefore, the ratio used above should indicate the increase required for current operations to 1970 if maintenance costs per mile stay at the same level as in 1957, and if there is a completion of the building program by 1970 which the states had in view in 1954.

I. Highway Expenditures for Local Governments: (Table 17)

1. Capital outlay expenditures for Rhode Island local governments for 1970 were obtained from the same source as cited in the Rhode Island state highway expenditure projections. The State Highway Department of Maine and Vermont supplied data for local capital outlays on highways along with their state projections, and the trend of these expenditures was extended to 1970.

For the other three New England states, no data on capital outlay expenditure projections are available. Furthermore, data for the years 1955 and 1956 are not available for all local governments, and only data for total highway expenditures are given for 1957. The only method of determining local capital outlays seemed to be the following. Capital outlay expenditures of cities over 25,000 for the years 1955-1957 were obtained from the Compendium of City Government Finances. These expenditures were expanded to represent all local governments by multiplying them by the ratio of 1957 total highway expenditures of the cities to 1957 total highway expenditures of all local units. Then the resultant capital expenditures for 1955-1957

were subtracted from the cost of highway construction in the 1955-1964 period for roads controlled by local governments as given in Needs of the Highway Systems, 1955-84. The remainder was then divided equally over the thirteen year period to give the average expenditure each year through 1970, after the remainder had been converted to 1957 dollars by means of the Wholesale Price Index. In comparing the results obtained by using the city data with estimated expenditures furnished by the states, the following differences were noted. The projection for Maine is $1,701 thousand higher and for Vermont it is $239 thousand higher using the city data. For Rhode Island, on the other hand, use of the city data gives a projection $3,136 thousand lower than the Rhode Island Highway Study Commission estimate for 1970. It was pointed out in the Needs of the Highway Systems, 1955-84 that some of the states had submitted revised estimates of their needs to the Bureau of Public Roads which were not incorporated into the published report. It is possible, therefore, that the much lower figure for Rhode Island in using the city data may be due to a revision of the estimated needs for roads in Rhode Island which was reflected in the Rhode Island Study Commission report, but not in the report to the Bureau of Public Roads.

2. Current operation expenditures for highways by local governments were projected in the following manner. For Rhode Island the ratio of 1957 road mileage to expected 1970 mileage was computed. The expected 1970 mileage was obtained from Rhode Island's Roads cited above, and the 1957 mileage was obtained from Bureau of Public Roads statistics as given

in the Statistical Abstract. There was no breakdown of 1957 highway expenditures into current operation and capital outlay for local governments in the data available. Therefore, the data for cities over 25,000 population were used to derive current operation expenditures. The ratio of total highway expenditures of cities in 1957 to total highway expenditures of all local units in 1957 was computed. This ratio was then multiplied times the current operation expenditures for highways of these cities to give current operation expenditures for highways of all local governments. This total was then multiplied by the local road mileage ratio computed above to give expected current operation expenditures for 1970.

For the remaining New England states, the same procedure as for Rhode Island was used, except that the mileage ratio was computed in the same manner as was used for projecting state highway operation expenditures above.

III. PROJECTIONS OF REVENUE BY SOURCE

The methodology used in estimating revenue was based upon the recommendations of the Tax Foundation, Inc., (a nonprofit organization engaged in research on government spending and taxation) in its Guidelines for Long-range Projection of State Finances. In some of the following projections, the New England personal income estimates made by the Bank have been used.

A. For Each New England State: (Table 10)

1. General Sales Tax

Only Maine, Rhode Island, and Connecticut have sales taxes at the present time. Maine and Rhode Island increased their tax rates one percent from 1957 to 1958. Massachusetts considered a three percent tax in 1959.

The sales tax projections were made by finding the ratio of 1957 personal income in each state to the 1970 projection of personal income made by the Bank, and by multiplying this ratio times the 1957 sales tax yield. In the case of Maine and Rhode Island, the adjustment for increased tax rates was made by converting the yield in 1958 to 1957 dollars and determining the dollar amount of increases from 1957 to 1958. The income ratio was multiplied by the amount of the increase, and the result added to the projection. The final step was to reduce the projection by 10 percent on the assumption that a smaller proportion of an increase in personal income would be subject to the sales tax.

A figure for the revenue from the proposed sales tax in Massachusetts was estimated for 1970 by taking the published estimate of the expected yearly revenue

and multiplying it by the ratio of 1957 personal income to 1970 personal income.

2. Motor Fuel Tax

An assumption was made that the number of persons per vehicle in 1970 would be about 10 percent smaller than in 1957. The number of persons per vehicle in 1970 was then divided into the estimated population in 1970 to give the number of registered vehicles in 1970. Next it was assumed that the amount of gas consumed per vehicle would decline to 1970 because of the introduction of smaller cars which would economize on gas consumption. The average number of gallons of gas consumed per vehicle in 1956 was 768 gallons. It seemed reasonable to assume that the number of gallons rose to about 780 in 1957, for there had been a 12 gallon increase from 1955 to 1956. The assumption was made that the average would fall to 700 gallons by 1970. A greater reduction seemed unlikely because it was thought that vehicles would be traveling more miles in 1970 which would increase gas consumption. On the basis of these assumptions, the number of vehicles in 1970 was multiplied times the average number of gallons of gas per vehicle in 1970. Then this product was multiplied by the present state gas tax to give the amount of motor fuel tax revenue in 1970 on the basis of existing tax rates.

Highway expenditures are dependent to some extent upon the amount of revenue received from motor fuel taxes and motor vehicle license charges. Therefore,

a projection of motor fuel taxes was made to 1970 on the basis of the projected 1970 highway expenditure for each state. The projected motor fuel tax revenue is the amount that would be required to finance all of the highway expenditures, after deduction of Federal aid for highways, if motor vehicle license charges were to increase $2 per vehicle at the same time. New Hampshire would be the only New England state that would not require an increase in motor fuel taxes and vehicle license charges to meet highway expenditures.

3. Alcoholic Beverages and Tobacco Taxes

All of the states have an alcoholic beverage tax. Maine is the only state that does not have a tobacco tax. The yield from these two types was projected by multiplying their yield in 1957 by the ratio of 1957 to 1970 population.

4. Death and Gift, Pari-mutuel, Insurance and Amusement Taxes

For the states that have these taxes, the method of projection was to multiply the yield of the tax in 1957 by the ratio of 1957 personal income to estimated 1970 personal income.

5. Corporation Net Income Taxes

Corporation net income taxes were projected by multiplying the yield from this tax in 1957 by the ratio of the 1957 to 1970 manufacturing wage and salary component of personal income. This method is based upon the assumption that the amount paid in wages and salaries reflects the income of the enterprise paying these wages

and salaries. The ratio of manufacturing wages and salaries was about the same ratio as for all wages and salaries, so that either ratio could be used.

6. Public Utility Taxes

The ratio of 1957 to 1970 wages and salaries paid by the communications and public utilities industries was used to project the taxes paid by public utilities for the same reason as given in (5) above.

7. Unincorporated Business Taxes

The ratio of 1957 to 1970 wages and salaries paid by nonfarm proprietors was used for this projection, again assuming that the wages disbursed reflect the income of the unincorporated business.

8. Individual Income Taxes

Only Massachusetts, New Hampshire, and Vermont have this type of tax at present. For these states the procedure was to multiply the yield of the tax in 1957 by the ratio of 1957 to 1970 personal income. In the case of Massachusetts, however, there is a proposal to raise the dependency allowance from $400 to $500 and it has been estimated that this would reduce revenue by $1.5 million. A projection was made for this estimated reduction by multiplying the estimate by the income ratio and deducting the result from the projection without the reduction.

Rhode Island is proposing an income tax of one percent per thousand dollars of income up to seven percent for incomes of $16,000 or more. It is estimated

that this tax would raise $16.1 million a year. This estimate was multiplied by the income ratio to give the 1970 projection.

9. Motor Vehicle License Fees

As described under motor fuel taxes above, the number of vehicles expected in 1970 was determined. The ratio of the number of vehicles in 1957 to the number in 1970 was then computed using this data. Next motor vehicle license fees were projected to 1970 by multiplying the yield from these charges in 1957 by the ratio of 1957 to 1970 vehicles.

In addition, an estimate was made for the yield in 1970 from these charges if the fee were raised on the average by $2 for all the states with the exception of New Hampshire. The revenue expected from existing motor vehicle license fees plus motor fuel tax receipts is sufficient to cover the 1970 highway expenditures of New Hampshire.

10. Total Tax Revenue

The ratio of the sum of the above types of taxes to total tax revenue in 1957 was multiplied times the sum of these taxes in 1970 to obtain total tax revenue in 1970. This procedure assumes that the types of taxes projected above will remain the same proportion of total taxes in 1970 as in 1957.

B. For Local Governments in Each State: (Table 16)

1. Property Tax Revenue

Property taxes are one of the most stable types of revenue. Therefore, these taxes were projected to

1970 by the least-squares method for cities with populations of 25,000 and over. The projection was then expanded for all local governments by the method described under projection of general revenues and expenditures above.

2. Other Taxes

The property tax accounted for about 99 percent of all local tax revenue in 1957. Therefore, no attempt was made to project other types of taxes separately.

3. Charges and Miscellaneous General Revenue

The ratio of property taxes to total general revenue from own sources in 1957 was found and multiplied by the 1970 projection of property tax revenue to give total general revenue in 1970. The difference between property taxes in 1970 and total general revenue in 1970 equals other taxes plus charges and miscellaneous general revenue in 1970. Charges and miscellaneous general revenue accounted for less than 15 percent of total local general revenue in 1957.

C. Intergovernmental Revenue

Projections of state and local revenues resulting from intergovernmental transfers were described above under the expenditure projections by function which give rise to these intergovernmental transfers.

D. Projection of State Indebtedness to 1970: (Table 15)

The following sources of data and information were used to project the amount of outstanding long-term debt, the

amount required for the repayment of long-term debt, and the amount of interest to be paid on the long-term debt in 1970.

1. In the Compendium of State Government Finances in 1957 of the U. S. Bureau of the Census, there were data on the amount of long-term debt outstanding at the end of fiscal 1957, and, moreover, there were data pertaining to the amount of long-term debt outstanding in 1957 that would be retired each year to 1970. The data were for total long-term debt, rather than for net long-term debt (net long-term debt equals total long-term debt minus sinking and other types of reserve funds designated for redemption of long-term obligations). In addition, it should be pointed out that the data on long-term debt pertain not only to full faith and credit obligations, but also to nonguaranteed obligations.

2. Data concerning the amount of total long-term debt outstanding at the end of fiscal 1958, as well as the amount issued and redeemed during fiscal 1958, were obtained from the 1958 issue of the Compendium of State Government Finances.

3. Newspaper reports provided information on the bond authorizations made or expected to be made in 1959, and on the plans for additional bond issues in years beyond 1959.

4. An estimate was made of the amount of highway and education capital outlay expenditures over the 1957-1970 period that would be financed by means of long-term

bonds. In order to make this estimate, the amount of debt issued during the 1951-1956 period was taken as a percent of the amount of capital outlay expenditure during the 1952-1957 period. (That is to say, it was assumed that the obligations for a particular capital outlay were issued the year preceding the capital expenditure). This percentage was then applied to the total capital outlay expenditures in the 1957-1970 period to give the total of expenditures that would be financed by long-term bond issues during the period.

A projection of the amount of long-term debt outstanding in 1970 was made with the use of the first three types of data listed above, that is, with the data concerning known and requested bond issues during the 1957-1970 period, as well as the debt outstanding in 1957. It was assumed that bonds would be issued for an average length of maturity of twenty years and that the rate of debt retirement would be 5 percent of the total debt outstanding at the beginning of each year. A further assumption was made that the average rate of interest in 1970 would be 3.5 percent on long-term issues of state governments.

A second projection was made, using the same assumptions as to length of maturity and interest rate, of long-term debt outstanding in 1970 with the additional data from type four above. This second projection is of less validity than the first projection to the

extent that the percentages of total capital outlay financed by long-term bonds in 1957 are very rough estimates, assuming a time-lag in expenditures that may be much longer, shorter, or quite variable in length in actuality.

In both of the projections the amount of total capital outlays requiring long-term financing was averaged over the 1957-1970 period, and it was assumed that bonds would be issued each year equaling this average amount of outlay over the years 1957-1970.

E. Projection of Local Government Indebtedness to 1970: (Table 18)

The only data available on the amount of long-term debt outstanding of local governments are for 1957 in the U. S. Bureau of the Census advance release, State and Local Government Finances in 1957.

Using the same assumptions as to length of maturity and interest in 1970 that were used for the state projections, the amount of 1957 local government long-term debt that would still be outstanding in 1970 was determined. Then it was assumed that the average yearly amount of capital outlay of local governments over the 1958-1970 period would be financed by means of long-term bond issues, and the amount of outstanding debt in 1970 of these issues was determined and added to the amount still outstanding in 1970 of the 1957 debt.

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